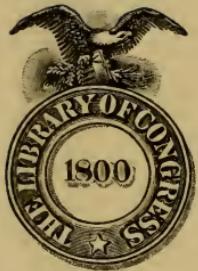


# **Motor Work and Formal Studies**

**CHARLES DAVIDSON**

**The Studio-Guide Series**

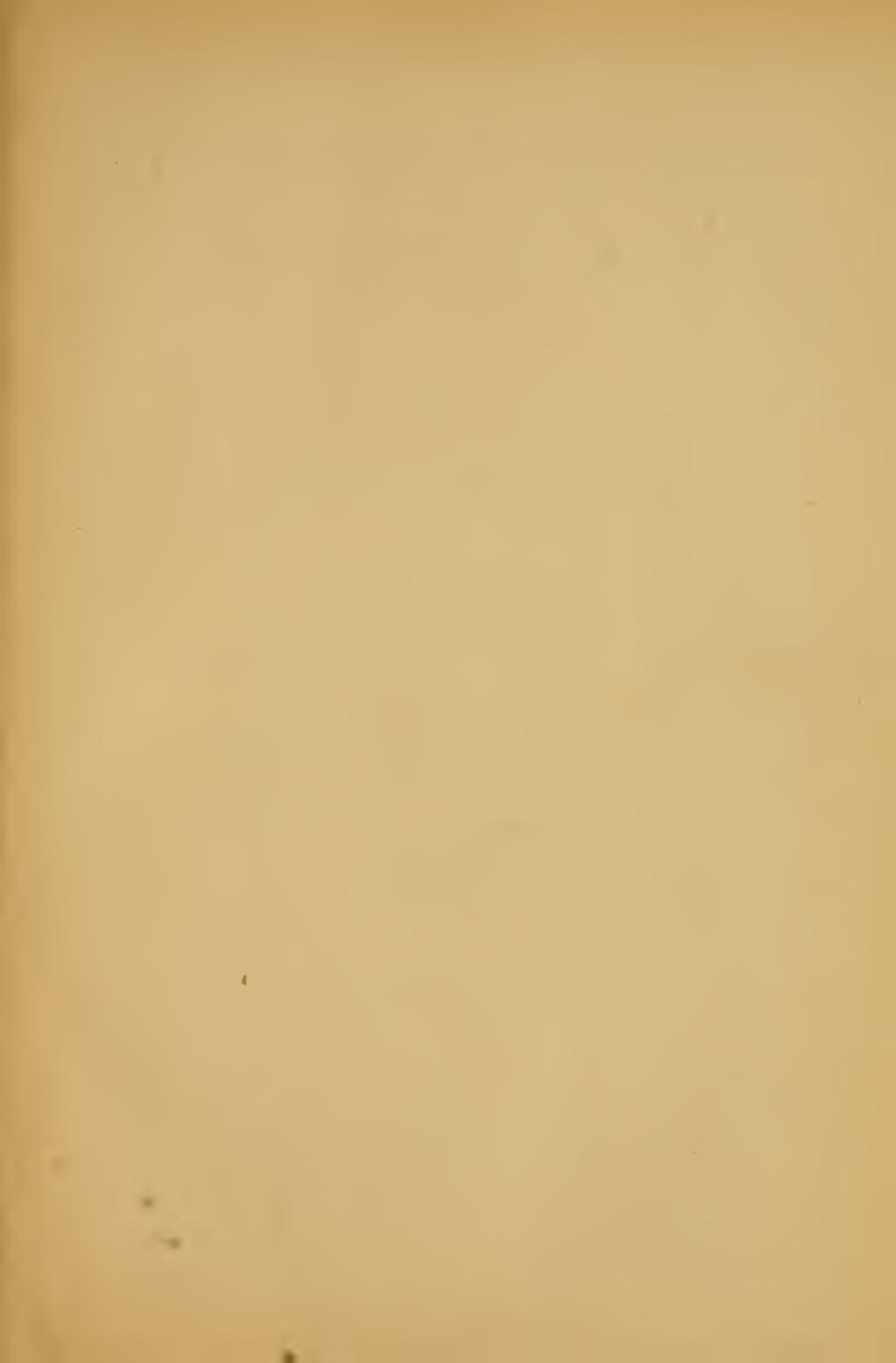


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# **Motor Work and Formal Studies**

**A Provisional Syllabus for the First Three  
Primary Grades**

BY

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ASSISTED BY

**FRANK G. WADSWORTH  
WINTHROP H. STANLEY**



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## PREFACE

AMONG the research problems that have been undertaken by the advanced students of the Department of Education, University of Maine, an investigation of the suitable content of instruction for the first three primary grades when motor activities are given precedence in the course, has proved very suggestive, and no apology seems necessary for giving it the wider circulation of print. Our studies in psychology clearly indicated that the young child develops through activity, particularly through motor activity, and that the facts of instruction aid in his development only so far as they suggest, or contribute, material for various ordered activities. The correlation of these activities with the instruction necessary in primary grades presented so many problems that a careful analysis of the desired activities and of the subjects of formal instruction was undertaken. With this analysis as our guide, it seemed practicable so to combine the two that each should reinforce the other in the daily program of the school. The syllabus here offered is the product of our effort to secure such a combination that the motor work shall reveal to the child the significance of the facts learned, and the instruction shall unfold to him continuously the possible advances in his activities.

At the beginning of the school year, 1908-9, Frank G. Wadsworth entered upon this research to which he devoted study equivalent to a two-hours' course throughout the year. In this study it was necessary, first, to gain

a clear comprehension of the principles of education as defined by Froebel and of his application of these in the kindergarten. The next task involved the survey and analysis of such material as various authors have gathered and systematized for the use of the teachers of motor work in the primary grades. Here, a difficulty arose, since the guides for motor work divide quite sharply into those in which all motor work is grouped around a thought unit with little regard for the difficulty of the tasks suggested, and those in which all exercises are closely graded for difficulty of invention or execution. After much discussion and study, the conclusion was reached that the thought unit must be preserved to secure unity and interest, but that due regard must also be given to the difficulty of the tasks undertaken. This balance between opposing ideas seemed attainable if, in the general organization of the work in the first two grades, precedence was given to the thought unit, while an advancing emphasis was placed upon graded tasks as the pupil gained in skill and mental vision. It seemed desirable, also, that the teacher's demonstrations and formal guidance in class instruction should follow the steps of difficulty in execution, while the tasks undertaken by the motor groups should be those of their choice as influenced by a thought unit suggested by the teacher. With the acceptance of these principles, the grading of motor exercises in the syllabus became possible.

The correlation of motor work and formal studies was now undertaken, but correlation involved selection, and the principles governing selection required definition. It was determined that, so far as was practicable, the content of the formal studies must contribute directly and immediately to the motor work, and that the application of knowledge gained from the formal studies should,

in large measure, displace reviews and drill exercises. It was recognized, however, that these principles must be applied with discretion, that the educational values of each subject must have independent investigation; for example, it became evident that the exercises in paper work should supply most of the data for the study of number in the first two grades, and that drill exercises in number and in phonics were indispensable. With this analysis of each subject of study, the writing of the syllabus began, subject by subject, and grade by grade. Mr. Wadsworth brought to the drafting of this syllabus the experience of a man acquainted with affairs and some knowledge of the peculiar characteristics of primary teaching in England. The following year Mr. W. H. Stanley undertook an independent investigation of the same problems. The conclusions which Mr. Stanley reached were compared with those set forth in Mr. Wadsworth's syllabus and revised wherever the positions presented in the earlier syllabus seemed the more tenable. Finally, the resulting syllabus was compared with that of the Horace Mann School, Teachers' College, New York, and a further revision made. The independence exercised by Mr. Stanley in drafting the second syllabus was most commendable since one's judgment is easily influenced by earlier work. Mr. Stanley's experience as a teacher and his natural aptitude for certain phases of the subject enabled him, in my opinion, to attain results no less valuable than those of Mr. Wadsworth who had done the pioneer work.

In stated meetings, each week, each investigator discussed with the instructor every detail of his investigation; its availability, its relative importance, its position in a graded scheme, its correlation with other parts of the work, were all considered, but the final decision rested, in every instance,

with the student. A final copy of each syllabus was filed with the instructor; these two syllabi I have now carefully revised and combined and this resulting syllabus has thus become a joint product, the parts of which it would be difficult to credit to any one author.

There is no thought in the printing of this syllabus that it is the final word on any portion of the field traversed. It is a systematic syllabus, suggestive, in my opinion, but containing many items that should be tested repeatedly in the classroom before they are finally accepted. I believe that it points in the right direction, and it is my hope that it will lead to intelligent experimentation. If teachers who make use of it will write me concerning the modifications which seem to them desirable, future editions of the syllabus will doubtless be the better for their contributions.

CHARLES DAVIDSON.

*University of Maine.*

## CHAPTER I — INTRODUCTION

CERTAIN principles drawn from the study of psychology have been rehearsed so frequently that they have become as worn as old adages, and few stop to question whether they have ever been put to the test. Among these, is the saying that the child learns by doing, often quoted by those who make the child's chief business that of learning facts outside the sphere of his present interest. Of late, the saying that the brain develops, for the most part, through orderly activities of the hand, has led some to ask why, then, should memoriter tasks and formal knowledge hold precedence in our elementary schools. This syllabus is a sincere but modest attempt to make orderly motor activities the core of the school course for the first three years of school life.

In the attempt to center school work in motor activities, it soon became evident that the grade unit was too large and too inflexible for our purpose. In motor work, the unit must be so small that there can be direct coöperation in each task. With little children, such a unit cannot exceed five or six in number. In such coöperation, therefore, a child prompt in initiative should be recognized as leader, and the children themselves, working with this leader, should, when practicable, distribute among themselves the different parts of the task. By this means, the give and take, the necessary tolerances of coöperative activity can be inculcated and the children trained for common action in community life.

Class exercises in the formal studies must, however,

be maintained, and explanatory lessons in motor work must be given to large groups, hence it is necessary to preserve the grade class, or large group, while subdividing it into the smaller motor units. For this reason, a grade class of 30 children was taken as the norm and divided into two groups, A and B, of 15 each, and each group was further divided into three motor units of five, consisting of four children and their leader. By this means, the small unit and the necessary flexibility for motor work were secured and yet class work remained undisturbed.

The teaching of a class so organized seems, at first glance, a difficult task, but closer examination robs it of its terrors. Teachers retard the development of independence and initiative by too close supervision; this is markedly true in all motor work, in which the child, when once his task is clear to him, should be left to his own resources as much as possible. If, then, the preparatory and suggestive introduction to the task is well given to the class group, the motor units can proceed to accomplish their purpose with little or no suggestion or supervision. The teacher may now devote her energies to the instruction of her class group in formal knowledge, giving the facts which each child will henceforth use in his motor work and making clear the application of these facts to planned activities. In a school thus organized, there is no excuse for the teaching of anything which cannot be reviewed through application within the next forty-eight hours.

Certain changes in the teacher's habit of mind may be necessary. She must be able to give her group crisp, clear instruction and yet be subconsciously aware of the situation with each motor unit as these small groups busily work in various parts of the room. This does not mean that she must act as a special Providence to remove difficulties for each unit, or swoop down as an avenging

angel at each small mischance, injustice, or disorder; but she should know what is going on as surely as the old-time teacher was conversant with the mischief brewing in the back seat. Further, she must disabuse her mind of the idea that the slight noises of occupation or the eager consultations in whispers are disorder. The hum of industry has invaded her domain and the activities of real life have displaced the cloistral silences. She must learn to attend to her task with the same concentration with which the children are pursuing theirs.

Finally, the schoolroom must become a workshop. Nature never intended that the child should sit quietly and in a prescribed position. Every muscle calls for exercise, and Nature's protest is made evident through the restlessness of the child. He should be up and doing the greater part of the time. At least half the area of the schoolroom should be free from desks that the sandbox, the working-tables, may have their places. Ample spaces for movement should enable the children to pursue their various industries without crowding or disturbance; they should pass freely from desk to table, move about, or sit on the floor when this position is most convenient for the task. Every child should have his peg for an unfinished raffia basket, a drawer for his cardboard and weaving materials, and should keep everything in order. Indeed, the walls of the schoolroom should not confine him. The fields and forests, the school garden and the rivulet by the roadside, are parts of Nature's school for him, and much of his instruction should be given afield. From these excursions he should bring back his treasures for the school museum, plants for observation, and insects that he may learn of their wonderful transformations. All things that aid in the development of the man or woman potential in every child are legitimate parts of his school discipline.

## CHAPTER II—GRADE ONE

### PROGRAM FOR GRADE I

FORMAL STUDIES FORENOON <i>Hours</i>	MOTOR SUBJECTS			
	<i>Groups</i>		<i>Groups</i>	
	A	B	A	B
9.00—9.10	Music (song), recitation in chorus,	10	10	.. ..
9.10—9.20	Demonstration (Paper Folding),	10	10	.. ..
9.20—9.35	Number, based on paper folding,	15	..	.. ..
	Paper Folding,	..	..	..
9.35—9.50	Number, based on paper folding,	..	15	.. ..
	Paper Folding,	..	..	15 ..
9.50—9.58	Gymnastics, out of doors, or in gymnasium, marching a part of exercise,	8	8	.. ..
9.58—10.06	Demonstration (Sand Work),	8	8	.. ..
10.06—10.21	Nature Study, Sand Box,	15	..	.. ..
10.21—10.36	Nature Study, Sand Box,	..	15	.. ..
10.36—10.48	Recess, Free Play,	12	12	.. ..
10.48—10.56	Luncheon,	8	8	.. ..
10.56—11.06	Phonic Drill,	10	10	.. ..
11.06—11.21	Rimes, later Reading,	15	15	.. ..
11.21—11.46	Games, including number games, marching, dramatization, etc.,	25	25	.. ..
11.46	Dismissal.			

## FORMAL STUDIES

## AFTERNOON

*Hours*

		Groups		Groups	
		A	B	A	B
				<u>1, 2, 3</u>	
1.30- 1.40	Roll checked, Individual Memory Selections,	10	10	..	..
1.40- 1.50	Music (new songs),	10	10	..	..
1.50- 2.05	<i>First Term.</i> Rimes and Reading, Sentence Making,	15	..	..	..
	<i>Second Term.</i> Cord Work demonstration, Cord Work,	..	..	..	15
2.05- 2.20	<i>First Term.</i> Rimes and Reading, Sentence Making,	..	15	..	..
	<i>Second Term.</i> Cord Work demonstration, Cord Work,	..	..	15	..
2.20- 2.30	Number, drill for facility,	10	10	..	..
2.30- 2.45	Story Telling by teacher,	15	15	..	..
2.45- 3.03	Recess, Free Play,	8	8	..	..
3.03- 3.09	Luncheon,	6	6	..	..
3.09- 3.14	Color Study, naming of spectral colors by color disks, water colors,	15	15	..	..
3.14- 3.26	Oral Composition,	12	12	..	..
3.26- 3.51	Games, marching, etc., Dismissal.	25	25	..	..

## A DAY'S TEACHING IN THE FIRST GRADE

Many teachers fear the attempt to combine motor activities with formal studies because they think that confusion will be unavoidable. Fortunately, this danger seems less threatening to teachers of the first grade than to others, because the methods of the kindergarten have been more generally applied in first grade teaching than in the higher grades; still, a sketch of a day's work with this program may not prove uninteresting.

And, first, we must consider the schoolroom. The desks should be so grouped that the corners of the room will be free for sand boxes; a clear space should also be left in front that the pupils may be grouped around the teacher's box for demonstration work; along the side of the room or in a recessed portion which must, however, be fully under the teacher's eye, space should be provided for a work-shelf attached to the wall, and near the windows bird-cages, flower-pots, and insect boxes should be placed. The desks should not occupy over half of the floor area since a bookcase, museum shelves for collections, and a closet for the material used in class work must also find place, as part of the equipment of the room.

The day's work begins, then, with a pleasant greeting by the teacher, and supervision of the removal and the orderly disposition of wraps, hats, and rubbers. The children then visit the plants and pets, pluck off a dead leaf here, or attend to other real or fancied wants, each for his own belongings. Now, the teacher signals for order and all are seated and in position.

First, comes the morning song, something well-known; then the class joins in the Lord's Prayer or in some ethical selection. The teacher, now, hands to the pupils seated

in the front row the sheets of paper for their aisles and seats herself at her table while the pupils place a sheet or two on the desk for each child. The demonstration lesson in paper-folding follows as given in the syllabus or in Worst's "Construction Work." The teacher states the object to be made and gives, step by step, the foldings required, omitting all arithmetical drill. The children repeat her movements as each direction is given.

At the close of ten minutes, B group rises, passes to the paper rack and each pupil provides himself with the necessary sheets of paper, then all group themselves at the standing shelf as motor groups 4, 5 and 6. The leader of each group consults with his group as to what they shall make, which will be either something made before, or a repetition of the morning's task. These leaders should be taught to ask each member of their groups quietly for his choice and to accept for the day the choice of the greater number. Meanwhile, the teacher repeats the construction work with Group A, stopping after each folding to give the exercises in number that should be based upon it. At the close of the period, the groups change places that Group B may also have its lesson in number.

For gymnastics, the class marches out singing a motion song. In the open air, or in the gymnasium when the weather does not permit exposure without wraps and hats, the class divides into the class groups or into motor groups as the teacher may think best for the exercise or game she has planned for the day. All is carefully planned, moves briskly, and, in eight minutes, the children are again in line to march, in step to their song, back to the classroom which has been thoroughly flushed with fresh air during their absence.

Without going to their seats, the children pass to the front, surround the teacher's sand box, divide into motor

groups and seat themselves on the floor in two rows in a semicircle with the group leaders within the circle. (Vacuum cleaning makes the use of the floor possible.) The teacher at the sand box does such drawing or cutting of solid forms as her plan for the day requires, then the leaders repeat her work or work at her direction. Group A now goes to the desks and Group B to the sand boxes, one of which is provided for each group in the corners of the room. Here Group B builds whatever each motor group chooses, or a group may pass at the teacher's suggestion to the large class sand box in front where the class is constructing a primitive village, and here build the hill or shape the rivulet which is to be its contribution to the common work. This class box unifies the work of the whole class in a coöperative task, which is made continuous through successive undertakings as the term advances. "The Story of Ab," or some elementary tale of primitive folk, will guide the teacher in her suggestions as to what may be done next. These movements by groups and motor groups should become so habitual that the children will carry them through with little direction; by such means, training in initiative and self-direction can be secured.

To the members of Group A, the teacher now distributes the plants for the day's study; these were gathered the day before in a neighboring field during an excursion from 10.06 to 10.50 with both class groups and have been cared for by the janitor, or they have been brought from the central depot for the entire school system in response to an order given the day before. The lesson is conducted as sketched in the syllabus and is repeated with Group B in the next period.

At 10.36, the class marches out for recess, free play in a sanded yard or in the gymnasium. During the absence

of the pupils, the room is again flushed with fresh air, and the teacher is busy preparing for the luncheon. Twelve minutes later, the class forms and returns to the desks. A paper napkin is now given to each, and a mug of milk with a pilot or graham cracker is served for luncheon. Each lays his napkin with care for a table-cloth, and takes pride in eating without the scattering of crumbs; thus, elementary principles of table manners are taught.

Eight minutes later, all has been removed and the class is ready for the drill in reading. During the first weeks of the term, the study of rimes introduced the phonic drill, but, later, a review of the work in phonics already learned precedes the sentence making for which words are found in the known rimes or are introduced as preparation for the reading lesson. After a little, a new rime is learned, or primers are distributed for the reading. The twenty-five minutes devoted to reading, the most important formal lesson of the day, do not make too long a period since they follow play and luncheon and the work is diversified at the teacher's choice through exercises in phonics, rime reading, sentence making, and sight reading with training in word recognition through the use of cards.

At the close of the period, the teacher proposes a game, possibly the dramatization of a rime or of a story that has been read, and after twenty-five minutes of orderly and organized play, wraps and hats are brought and dismissal follows.

The afternoon session begins at 1.30 with individual memory selections while the attendance roll is checked, then two or three stanzas of a new selection are repeated several times. Music follows; this is advance instruction in rhythms and a new song as sketched in the syllabus. Group A now continues the rime and phonic study of the forenoon,

the teacher giving special attention to individual difficulties in the production of sounds or in the mastery of the various elements involved in reading and talking. Meanwhile, Group B has received from the leaders of the motor groups word blocks with which each motor group is busily engaged in making sentences. The groups exchange work at the close of the period. Since the most important task of the first half year is the mastery of the art of reading, the emphasis placed upon reading in this program seems justifiable.

A class lesson follows,—in counting, in quick adding, where objects are shown with the question, How many? These lessons often take the form of games and sometimes these are competitive between groups. If the leaders of motor groups are proficient, the class may divide into these groups for guessing games where such objects as marbles, limited in number, are concealed, guessed, and then counted in the open hand. By this exercise, rapid and accurate calculation within the range of acquired knowledge is secured. The work is fast and exhausting, consequently it is continued for ten minutes only; story telling or reading by the teacher follows to give a desirable change; this should be enlivened by running comments by the class in answer to questions.

A recess for free play and the luncheon follow as in the forenoon. Fresh specimens of the flower studied in the morning, or of some other blossom if the colors were not sufficiently positive or differ too much from the spectral colors, are now distributed, with a lump of moist clay which each pupil fashions into a support for the stem. With color disks, worsted yarns, or colored papers, a quick drill is given in the recognition and naming of spectral colors, then each child strives, with water colors, colored

crayon, or charcoal, to reproduce the flower as he sees it. Later in the year, the children will attempt picture stories, inventing their own representations for some simple tale of successive incidents.

When the period for color work has ended and the boxes have been wiped clean and the brushes shaken out to dry, the children sit in position while one after another tells in continuous narrative some familiar story or gives an account of the walk to school that morning.

The day closes with the learning of a new game, or a favorite game is played, and dismissal comes at 3.51 that the little ones may be off the school grounds before the larger children appear. It will be noticed that the program provides for a longer day than is usual in primary grades. This lengthening of the school day is made possible without added fatigue by the frequent interchange of motor work, the variety of occupation, and the giving of food. If it were practicable to provide a rest period with food and sleep at the noon hour in place of the hurried visit home, the periods of outdoor activity might be still further lengthened without exhaustion and to the advantage of the pupil. Children might better pass their free time in healthful orderly activities under the oversight of their teachers than in the haphazard activities that too often occupy them out of school hours. Our school day for primary grades has been made short because the occupations provided have not been in accord with nature's demands for the growing child; make them conform to natural needs, and the development of the child can be promoted best through an oversight of his activities comparable with that of intelligent maternal care.

## SYLLABUS FOR THE FIRST GRADE

### ENGLISH.—GRADE ONE.—SEMESTER A

The problem of the successful teaching of the mother tongue in Grade One involves the selection of suitable material and the development of an effective method of procedure. In this syllabus a few carefully chosen nursery rimes introduce the study and form the core of instruction for the first sixteen weeks. As the child advances in the knowledge of these, the drill in phonics increases and sight reading is introduced. The advantages of an introduction to reading through nursery rimes have been well stated by an earnest advocate of this method, Miss Tufts, Supervisor of Primary Grades, Elmira, N. Y., in these words:

1. Rimes deal with familiar things and connect the children with their play life in the home.
2. Rimes appeal to the play element in children and the playing of them in school aids in strengthening the memory.
3. The stock or type words used by the children in subsequent work are furnished by the rimes.
4. Rimes are easy and interesting.
5. The children use the rimes as a reference dictionary for their first reading and thus become independent and self-reliant from the first.
6. From the beginning, the pupils work with words in relation to one another.
7. The sequence of words in the sentence is an aid to the memory.

**The Rimes.**—The nine rimes selected are, “Little Jack Horner”; “Jack and Jill”; “Pussy Cat, Pussy Cat, Where have you been?”; “Old Mother Hubbard”; “Little Boy Blue”; “Little Bo Peep”; “Three Little

Kittens"; "This Little Pig"; "What Does the Bee Do?" The order in which the rimes have been named is to be followed in their use. The work with rimes is to be continued at least through the first sixteen weeks of the school year. The vocabulary which the rimes furnish should be made the basis of many original sentences for blackboard work. Finally, words selected from the rimes will be the units from which the phonic drill will be developed.

Begin with "Little Jack Horner" and require the pupils to memorize the rime thoroughly if it is not already known to them. The lines will be used later by the pupils for reference, therefore, it is necessary that each child should have a complete mastery of the rime. The next step is motor expression of the thought conveyed by the rime; dramatize the rime to make it very real to the pupils; see that each child performs the actions indicated in the rime. By this means, the lines become crystallized into a definite part of the child's experience.

**Blackboard Work.** — Write the rime upon the blackboard in large script and allow it to remain there for reference in future work. Read the stanza slowly from the beginning, pointing to each word as it is named. Now call upon a pupil to imitate the reading just done by yourself, the class at the same time reading in chorus to aid the one at the board and to lessen the timidity of any members of the class who may be self-conscious.

After they have become familiar with the written form of the entire rime, the pupils must be taught to recognize the lines when they are written in any order. Write a single line of the rime beside the original copy and call upon pupils to find the corresponding line of the complete copy of the rime. The pupils should now be directed to read the rime from the beginning until they come to the line under con-

sideration which can now be read. Herein lies the necessity for absolute familiarity with the selection; loss of time cannot otherwise be avoided at this stage of the work. Write another line and continue the work in this manner until the pupils recognize the lines in any order without reference to the original copy of the rime. When mistakes are made, call upon another pupil to read and then require the pupil who made the mistake to read the line correctly.

**Type Words and Sentences.** — When the lines have been mastered, proceed to the teaching of words as elements of the sentence by a similar method. Select, first, from the rime words which connote actions and objects. Write a word on the board, then call upon a pupil to find the word in the rime and to tell what it is. Proceed in this way until the children can name the principal words of the rime without looking at it for aid. As fast as possible, combine these words into original sentences which the children dramatize and then read. The variety of sentences, at first, will not be very great, but when two or three rimes have been mastered, the number of sentences that can be formed will increase rapidly. As soon as possible, group the sentences in story form. Open the path for transition from the rime to the reading book by selecting for sentence work words common to the rime and to the first lessons of the reader. After a few weeks, exercises on rimes may alternate with phonic and reading exercises.

**Phonic Drill.** — A period preceding that devoted to reading should be set apart for drill in phonics. The word "sat," for example, may be taken from the first line of "Little Jack Horner" for use as an introduction to oral analysis into phonic elements, for the teaching of the first phonograms and sight words, and for the first blending of elements. Speak the word slowly until the pupils can

distinguish the initial consonant from the remainder of the word. Write the letter "a" on the board and teach it by its short sound, not by the name of the character. Write the word "at," encourage the pupils to give words beginning with the "s" sound and words including the simpler word "at."

In connection with the phonic work based upon the word "sat," teach the sounds of the letters "p," "h," "f," and "m." Blend or combine the new sounds with the sight word "at," thus: p-at, p-at-s, h-at, h-at-s, etc. The use of phonic cards for drill may now begin. At first, the teacher should prepare the necessary cards, but should make them of the same size as those supplied with the manual that she will use later. Large script should be used, the characters being written on one side and printed on the other so that both forms of the character may be presented to the class. Take a position in front of the class where every child can see clearly the writing on the card presented. Direct the class to name the characters in turn so that you need call upon no one as you show the cards. Expose the cards rapidly, going around a class of thirty within three or four minutes. When a pupil fails to give the sound or phonogram instantly, say, "Tell" as a signal for the class to give it. At first there will be many failures but with practice a marked improvement will soon be noticeable. This rapid work keeps every child alert and cultivates the quickness of eye that will be so necessary, by and by, in reading.

In all phonetic work, make sure that you can yourself utter every phonic element accurately and very distinctly, and in the introduction of a new phonogram speak it many times, for the children learn most rapidly by imitation. After some progress has been made, select words and com-

binations with reference to the first lessons in the reader. Make a list of words, grouping them as (a) words learned from the rimes, (b) new words that can be taught as sight words, (c) new words that can be formed by blending two or more phonic elements. Prepare a list of the elements into which the words of the third class must be analyzed, and teach them to the children. Teach the pupils to analyze these words into their phonic elements and to master the word pronunciation by blending its elements. At first it may be necessary to underline certain groups of letters when words are analyzed, but discontinue the practice as soon as possible.

Children learn to talk by experimenting with their organs of speech until they hit upon a combination of sounds that satisfies their ear. If the ear is dull or has failed to note certain inaccuracies or has become tolerant of these, the child has accepted a faulty utterance and confirmed it through repetition. The teacher should know the correct position of each organ in producing sound and should direct the child's exercise of his vocal organs when sounds are formed inaccurately. The "th," "f," and "s" sounds require special attention.

**Reading by Pupils (Sight Reading).** — After the phonic elements have been mastered, sentences should be built up on the board and read in script. Books may then be distributed and pupils directed to read the first sentence or "story" silently, then some pupil should give it aloud without looking at the book. Reading is, at best, a matter of distributed attention. The child must heed the report of the eye, grasp the content in meaning, and attend to the task of utterance. These tasks should, at first, be made distinct and successive, but, later, the combined tasks should be undertaken. Drill to this end may be given by cards

with words and sentences plainly printed upon them and displayed as phonograms are with the phonic cards. When the child fails to grasp the thought or to recall it, he should turn again to the book and read the sentence silently until he can repeat it without failure; when he fails to recognize the word, he should not be told but led to master it through analysis into phonic elements and recombination. As ability to read advances, increase the number of words or sentences to be read silently and then expressed orally; the logical relation and order of thought in continued discourse can thus be grasped. Before the first reader has been completed, notify the superintendent that another textbook may be supplied; repeated readings deaden interest; each class should read through several first readers before it advances to the more difficult tasks of the second reader.

**Reading by the Teacher.** — The teacher should select with great care such reading as will aid in the moral, emotional, and mental development of her pupils. Such selections must possess a distinct literary value, and must have some definite and apparent relation to the environment and experience of the children. In the selection of stories and poems, it must be constantly kept in mind that the child's attention or inattention will be determined by his ability to understand the subject matter and by the personality and manner of the reader. It becomes evident, therefore, that the literature chosen must satisfy one or more of the following requirements:

1. Poems or stories chosen must lie within the range of the child's understanding.
2. They must bear a definite relation to his nature work.
3. They must supply some thought that can be made the basis of tasks in motor activity.

4. They must quicken the imagination.
5. They must define some moral principle, shape some ideal, or quicken the child's sympathy with such.

The teacher must decide whether a given selection should be read to the children or will be realized best if told as a story. In general, it may be said that reading is preferable to over much story-telling.

The following texts are suitable for the teacher's use with the first grade: "Raggylud" and "Molly Cotton Tail" correlate with nature study; "The Children's Hour" with home experiences; "Prince Harweda" and "The Little Gray Grandmother" are a corrective to selfishness; "The Story of Ab" and the "Story of Prometheus" are used in the Horace Mann School of New York in correlation with primitive life studies. Here also "Hiawatha's Childhood"; "The Four Winds" from "Hiawatha"; Riley's "Song of the Brook"; Stockton's "Old Pipes and the Dryad"; Field's "Why Do Bells at Christmas Ring?"; Moore's "The Night Before Christmas"; Stevenson's "Little Shadow" and "Land of Story Books" find favor. Other selections that can be drawn upon at will are:—"Stepping-Stones to Literature (First Reader); "Child Life" (First Reader); Cyr's Primer; "Nino and Juanita" from Carroll's "Around the World"; selections from Thompson's "Fairy Tales and Fables" (Second Reader).\*

Certain of these texts, once read by the teacher, become good reading material for the class. Thus, "The Story of Ab" can be used, beginning with class periods of ten or fifteen minutes and increasing the length of period slowly. The task should center in thought getting, not in

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\* A bibliography from which selections are made for the Horace Mann School is given in the "Teachers' College Record," Vol. VII.

word or sentence mastery. Sketching, dramatizing, will aid in imparting the thought. By the use of Fulton's "Sign and Price Marker," sentences can easily be printed with slight changes; then, a group of sentences can be mastered. This exercise should be devoted strictly to the quick grasping of thought from print and should not be confused with the drill in the mechanics of oral reading.

Further, the teacher should be guided in making her selections by the requirements of motor and color work. She may find it desirable for these reasons to include "The Three Bears"; Sidney's "The Little Brown Seed"; Poulsson's "In the Child's World"; Mullock's "Cock Robin" or others.

**Memory Selections.** — Only the best things in literature should be given to children and stored in memory; these must be characterized by (1) simplicity, (2) imaginative quality, (3) excellence in simple rhythms, etc., and these characteristics must be so embodied that they will be felt by the child although he cannot tell why the selection pleases him. Among such memory gems the following may be listed: Rossetti's "Who has Seen the Wind?"; Helen Deane's "Cleanliness"; from Ella M. Powers' "*Selected Memory Gems*"; "Our Flag"; Mary Bailey's "Motion Verses for the First Grade"; Elizabeth Denison's "Kindness and Love"; Harriet C. Brown's "A Cure for Crossness"; Ella M. Powers' "Kindness"; Maud M. Grant's "The Pumpkin"; Bertha E. Bush's "In Fall"; Stevenson's "Rain"; Taylor's "Little Pussy."

**Oral Composition.** — No part of the training in English is more important than the exercises in oral expression. These exercises do not require separate periods for instruction; they should be given in connection with the reading, nature study, motor work; every form of childhood's

activities affords opportunities for a connected statement of the child's activity or interest. A connected narrative must deal with events having a sequence in time, and, with little children, will consist of a statement of successive acts. These are the incidents which must be seized upon by the teacher as the material suitable for practice in connected speech. Even with exercises of this character, the teacher will find it difficult to secure a sustained narrative; the child in his haste omits impatiently the preparatory steps and desires to leap at one bound into the thick of things and proclaim the outcome. A friendly contest in telling all of the story will lead them to see after a time that the steps of approach are not to be neglected and that preparation is necessary for every climax.

The child's daily life affords much material for oral exercises. Some suggestive topics are: "Experiences on the Way to School," "Deeds of the Recess Time," "Experiences in the Schoolroom"—of various kinds. Stories that have been told or read by the teacher can be reproduced, especially with the aid of consecutive drawings on the board to which the child may point, using them one by one, as he tells his story. Friendly competition in the development of the tale is commonly more effective than the asking of questions, although the teacher must often by comment or question show what is lacking in the story as told. Whenever possible, stories should be chosen which will correlate with the motor work or with nature study by supplying a thought unit that will give purpose and unity to the activity.

The first purpose of the teacher in these exercises is the development of ideas concerning sequence, preparation, adequacy of statement, etc., but she should aim no less at securing correct speech and distinct, expressive, and

controlled utterance. These objects, however, cannot be secured by such interruption during narration as will in any measure disturb the flow of thought. When slang, incorrect speech, or the wrong word falls from the lip, the teacher may speak the right word, but should not expect the child to reword his expression or halt in any way in his effort for creative composition. After the child has finished, sometimes a word of correction is possible but never such criticism as will make the child self-conscious in later efforts.

#### ENGLISH.—GRADE ONE.—SEMESTER B

The methods in English for the first term should be continued through the second semester with little change. Reading by the pupil and by the teacher, oral composition, dramatization, and the memorizing of choice selections should receive most attention, instruction keeping pace with the developing ability of the pupil. The names of the letters and their order in the alphabet should be thoroughly learned. Drill in phonics should advance from the easier to more difficult phonograms. Sentences of greater complexity of structure can be undertaken in reading, and a much greater variety in words can now be introduced. Strive to interest the children in observing and learning new words upon their own initiative. Lists can thus be gathered for the blackboard and exercises based upon them as in the former term upon the words in the rimes.

Begin now the study of syllabification; teach the children to recognize the syllables of which words are composed. Write the words on the board, first, as wholes, then, separated into syllables. Distribute cards bearing lists of words separated into syllables, write such words as wholes on the board and teach the children to find the word on their

cards, write other words and ask pupils to separate them into syllables by vertical lines. This exercise should lead to a consciousness of syllabification which will be of direct service in pronunciation and in spelling.

The range of reading by the teacher may be enlarged by the addition of: Poulsson's "The Sunbeams"; Wadsworth's "Over the Meadow"; McDonald's "The Baby"; Grimm's "The Sleeping Beauty"; Anderson's "The Little Matchseller"; Anderson's "The Snow Queen."

The Memory Selections may include: Old Gaelic Lullaby "Hush! The Waves Are Rolling In"; Tennyson's "What Does Little Birdie Say"; Allingham's "Robin Red-Breast"; Taylor's "Twinkle, Twinkle, Little Star"; and the remainder of the Mother Goose Jingles.

All exercises in spelling throughout the first year should be restricted to those words which the pupil has occasion to write. Penmanship during this year should consist of the writing of such words as the child has occasion to use in copying sentences of the work in English or in the simplest statements in the observation of nature. These words should be written in large script with crayon or coarse pencil point and in what might be called a vertical hand. No child should undertake to write continuously in an arm or forearm movement before the fifth grade, and until that time writing should be looked upon as a mode of preserving or imparting information and its legibility should be its one excellence.

#### MOTOR WORK.—GRADE ONE.—SEMESTER A

The selection of tasks in motor work should be governed by the following principles:

1. The things made must stand for ideas of large social meaning.

2. They must be things that the child feels are worthy of his best efforts.
3. They must be of a nature calculated to represent the child's own expression of the subject under discussion.
4. They must be simple enough for him to execute with little or no aid on the mechanical side.
5. They must not be so complicated as to demand numerous directions and frequent assistance, though the teacher should aid to a clear image and to technique of the tool.
6. They must not demand too long continued application.

These principles, which are in large part those formulated by the teachers of the Horace Mann School, vary in importance with the different tasks; 1 and 2 are especially important when the tasks are closely knit with a thought unit, such as the Primitive Life thought unit which is so prominent in the Horace Mann work; 3 and 5 are not so pertinent in paper exercises in which the child follows the teacher's act imitatively and attention is directed to the correlated number work; but in creative work these principles are of first importance. In all work dependent upon the child's initiative, the power to image the product should be cultivated.

In the work of the first grade, paper, cardboard, clay, grasses, rushes, raffia, leather, cord, wood and twigs, cloth, sand, and stone may be used. An Indian village with its industries is a good sand-table subject with the parts distributed to different pupils, or to different groups under their respective leaders.

**Paper Folding and Cutting.**—Through paper folding and cutting, touch is made more delicate, muscles

are trained in accuracy, hands and eyes become accustomed to working together. These exercises teach the child to think quickly and accurately, and afford perhaps the best introduction to the study of number, bulk, dimensions, wholes, parts or fractions.

For the first eight weeks, the tasks should consist of easy exercises in paper folding and simple construction. For all independent work, a thought unit should be given; that is, the product of the child's activity should have place in the general plan of the thought unit. This thought unit may be taken from the stories of the English work of the grade, as "The Three Bears," for which tables and chairs must be made, or from nature, as sowing-time or harvest. The thought unit must be so selected that the tasks involved will fall, as nearly as possible, under principle 4. In the imitative tasks, where the child follows the action or direction of the teacher, the exercises should be graded according to the difficulty of execution, the facts of number or of form that should be learned next through this exercise, or with reference to the character of the mental or imaginative activities involved.

The first exercises should be correlated with number and word teaching. Teach the terms, square, oblong, edge, corner, side, right, left, size, shape. Use the six-inch square of paper as the basis from which, by folding and unfolding, the numbers from one to sixteen are learned with addition and subtraction within those numbers. For detail of work, see Worst's "Constructive Work," Mumford & Co., Chicago, or Hobart's "Paper Construction for Primary Grades," J. L. Hammett & Company, Boston, Mass.

No measuring should be done by the pupils during the first half year nor should the foldings exceed sixteen.

A supply of paper cut to the different sizes used in these exercises should be kept in stock. In the creative work of the first eight weeks, the articles made may include seed boxes, seed envelopes, tables, chairs, beds, baskets, soldier caps, boats, sleds, etc. In the graded work where the teacher leads and develops the application of facts, the teacher must work before the class and also see that each child does exactly as directed. Directions must be given slowly and distinctly. As an illustration of method the following first lesson is given:

The teacher is seated before the class where each child can watch her execution as she directs them. Task,—the simple folding of a six-inch square of paper. Dictation and questioning:—Grasp the middle of one edge of the paper between the thumb and forefinger of the left hand and hold it squarely in front of you. What shape is the paper? (Teach square.) Find the right edge; the left edge; the upper edge; the lower edge. How many edges has a square? Which edge is the longest? Find the right upper corner; the right lower corner; the left upper corner; the left lower corner. How many corners has a square?

Grasp your paper by two corners and hold it squarely before you. (Teacher illustrates.) Place the paper on the table with the edge between the fingers near the front edge of the table and parallel with it. Place the front corners of the paper upon the rear corners. Hold with the forefingers and crease the paper with the thumbs, beginning at the middle of the fold and creasing toward the right and left edges. (This calls for a coördinated movement of hands and arms.)

Lift the paper by the corners of the crease and hold the paper up as before. What is the shape of your paper? (Teach oblong.) Which sides are longer than the others?

How many sides has the oblong? How many corners has the oblong?

Lay the paper on the table as before. Unfold and smooth out the crease. How many oblongs do you see on the paper? Which is the larger? What part of the square is the oblong? (Teach one-half.)

Hold the paper before you by the corners so that the crease extends from top to bottom. Place upon the table as before. Fold the front corners upon the rear corners. Hold the corners in place with the fingers and crease with the thumbs. What shape is the paper now? Turn the paper over. What is the shape of the other side? How many squares in each oblong? Open the paper. How many squares in the paper? (Teach one-fourth.)

By folding from the edges to the center crease and again the opposite edges to the center, the number work can be advanced, but it is best to limit the first lesson to a study of number from one to four inclusive, employing, however, addition and subtraction within these limits.

In the second lesson, the numbers developed in the first should be placed on the board, the figures taught, if any do not know them, but the additions and subtractions should not be taught, as yet, with plus or minus signs. Soon, the children should make the notes on the board in figures and thus a beginning be made in the use of note-taking to preserve knowledge, which will be the main purpose of all writing in the primary grades.

**Sand Work.** — The work in sand for the first eight weeks should consist in drawing with the index fingers of both hands subjects seen in the classroom or subjects correlated with the paper work, nature study, number and language. The first objects should be those only which have straight lines: table, chairs, window, door, picture

frame, ball frame, etc. The details for this work can be found in "Sand Modeling" by A. Wadsworth, published by E. J. Arnold & Sons, Leeds, England. The material necessary is a number of shallow boxes filled with clean white sand.

#### NUMBER WORK.—GRADE ONE.—SEMESTER A

All the work of the first term in number arises incidentally from the motor work and most of it from the paper work. Some children enter the first grade able to count but ignorant of what the number signifies. The significance of counting should be taught, in this case, by combinations of marks, by blocks, by making and dividing lines. All should be taught to visualize a group without counting, as they do words in reading. Wherever possible, the child should first estimate length, quantity, or number; as in his need for three feet of cord, his wish for a quart of sand etc., and then correct his estimate by some test.

As measurements are not introduced till the second term, correction of estimates cannot be carried far until then, but after that time, measurements, the making of change, and the observation of a three-minute hour-glass to gain an idea of time, are possible in the child's daily activities.

During the first term, counting and combination within the number space of one to ten should be learned. Subtraction can be taught by the Austrian method as a form of addition. The fractions one-half and one-fourth should be used familiarly and a few other unit fractions may be added.

Seek the development of a true conception of number within the range of the child's daily occupations. Do not

be discouraged if results come slowly. The conscious grasp of number must be gained through rational use. There must be much repetition of all combinations. Each new number fact learned through one activity should immediately be applied in other phases of the child's activities; he must learn to apply to the concrete acts of his life the symbols which represent magnitude, quantity, etc.

In the paper work after the first eight weeks, the exercises follow the lines laid down for the earlier work. The following articles may be made: trunk, comb case, cradle, settee, bathtub, candy box, match safe, Christmas tree decorations, wall pocket, letter case, book mark, etc., if Worst's "Constructive Work" is the guide. In the sand work, following Wadsworth's "Sand Modeling," the objects drawn should be those of which the circle or oblong is the base; these will include, ball, moon or circle, plate, cat, orange, apple, plum, walnut, lemon, pear, mouse, potato, turnip, strawberry, carrot, and children's playthings, including doll's chest of drawers, doll's house, kite, bucket and spade, bat and ball, slate, boat, engine, drum. Each exercise or drawing should be accompanied with rimes and correlated with number.

#### MOTOR WORK.—GRADE ONE.—SEMESTER B

**Paper Work.**—At the beginning of the second term, the pupil should learn to make simple measurements. If possible, secure rulers that do not have divisions smaller than the half-inch. Strips of bristol board, one inch wide and subdivided for inches and half inches, may be used but are not durable.

The first exercise with the ruler is the drawing of lines, e. g. draw four lines, each two inches long; four more, each

three inches long; four more, each four inches long, etc. Question the children after this manner: How many two-inch lines can be made from a six-inch line? How much longer is the six-inch line than the four-inch line?

In order to draw a perfect square or oblong, the child must be taught to draw a perfect right angle. A right triangle cut from heavy cardboard will be helpful in drawing the corners of squares and oblongs.

As in the first term, the articles constructed will fall roughly into two classes, the independent creative work of the child suggested by a developed thought unit, where the teacher's part is that of suggestion and is wholly subordinate to the child's initiative; the graded work which is directed by the teacher that the child may gain new conceptions of form, greater manual dexterity, deeper imaginative power through the effort to visualize forms of increasing complexity. In pursuance of one or other of these purposes, the following articles may be made:—Trunk, comb case, paper wind mill, wall pocket, postage-stamp case, thread winder,—which is a fundamental form for many later constructions,—paper chains for decorative purposes, through which color harmony and contrasts can be introduced. An excellent outline for this work may be found in Worst's "Constructive Work."

**Sand Work.**—The sand drawing which began in the fall should be continued, but in the second term the notion of solidity should be developed. The teacher should be conversant with the teaching of solid objects in the kindergarten and so conduct instruction as to review the knowledge there obtained and advance to clearer conceptions. This instruction should also prepare and introduce the work in clay modeling which will be more strongly emphasized in the second year.

The materials required are sand, sand-board, models, and a wooden spatula for molding the sand. The objects to be studied are the cube as a whole, the cube divided into eight smaller cubes, and the cube as composed of two solid triangles. The model should in every case be placed before the child and he should be encouraged to plan his work after it. The directions given may be as follows: Make a pile of sand on a clean part of the board. Flatten the top of the sand heap. Cut through the sides of the pile of sand and scrape away the material until the portion remaining is similar to the model placed before you.

Take one form at a time as an exercise. To form the solid triangles, model a cube and cut along a diagonal. Form the smaller cubes by cutting the large cube horizontally and midway between top and bottom, then vertically along lines half way between the top edges and parallel to them.

In the drawing in sand, the following objects may be drawn:—flag, candle and stick, mug of cherries, comb, bell, basket, horseshoe, well, pussy-cat, Humpty-Dumpty, Little Miss Muffet, Hickory, Dickory Dock, Jack Sprat, See-Saw; these may be associated with appropriate rimes and correlated with number, nature study, and English. An excellent outline for this work may be found in Wadsworth's "Sand Modeling."

**Clay Work.**—During this semester, clay may be used for the modeling of fruits if the teacher desires, but detailed instructions for clay work are reserved for discussion under Grade Two.

**Cord Work.**—The work with cord is so simple that it can easily be dictated to a large group. It affords valuable training in that it gives employment to both hands equally, teaches concentration and trains the power of observation.

It arouses the child and stimulates him to originality of expression in design and invention; it is also a desirable introduction to the basketry and weaving of the second year. It affords instruction in color combinations and in simple number.

The first exercises should be with the knot, single string; the knot, double string; and fringe knotting. The single and double string knots may be used in various ways. If all are of the same size and of one color or of combined colors, they may be used as a fringe on a spread for the teacher's table, for example. The fringe knotting can be made into bags and hammocks for school use.

The cord work for this semester may include:—single chain stitch of one string, chain stitch of two strings, spiral cord of two colors, single chain of see-saw knots, double chain of see-saw knots, combined single and double see-saw knots. An excellent outline for this work is given in Tinsley's "Practical and Artistic Basketry."

Any cord except ordinary wrapping cord is suitable for the work of this grade. The teacher can add interest and teach colors and color harmony by dyeing cords for the different fundamental colors.

**Number Work.**—Confine the number work of the second semester to the number space one to twenty inclusive. Teach in accordance with the principles observed in the first semester. Train the children to measure distances, the units of measure being, first, the inch and, later, the half-inch. Correlate with cord work by measuring the distances between knots, with sand work by drawing lines of arbitrary length estimating their length and then measuring. Measure the dimensions of familiar things: pencil, sheet of paper, thickness of blocks, width of floor boards. Many suggestions are given in Worst's "Con-

structive Work," exercises XVII to XXXVI inclusive. In paper folding, folds to sixteen squares may be used and exercises in addition, subtraction by the Austrian method, and unit fractions for one-half, one-third, and one-fourth should be repeated until they are perfectly familiar.

The year's work should include: — Counting by ones to twenty; by tens to one hundred; by twos from one to twenty-one, from two to twenty; by threes to eighteen; by fours to twenty; the writing of integers to one hundred; in addition, combinations up to nine with one, two, three, and four; sums formed by counting with no carrying and no borrowing; in measurements and comparison, the pint, quart, inch, foot, yard, cent, five-cents, dime, and in written work, halves, thirds, fourths, and the signs plus, minus, and times. No formal analysis of problems should be given or required.

#### NATURE STUDY. — GRADE ONE. — FALL AND WINTER

The development of the individual and of society has been accomplished through the influences of natural environment and through the application of the mind to the study of the outer world as it has been revealed to the mind through the different senses. The person who has been the closest observer of natural phenomena and of their relations to one another and to himself as a member of society, has entered most completely into the unity of the universe. In no other branch of school activity is there more abundant opportunity for the systematic evolution of personality. The poorest student, the boy who takes no interest in school work and who plays truant whenever he can, may be the one who has observed his surroundings most carefully and would profit most by some organized nature study.

The ultimate end of scientific nature study is the development of the individual and the unification of himself with his environment. Nature study in Grade One does not in any respect approximate a science, nor does it claim for itself so lofty a purpose as that stated above. The immediate reasons for its introduction into the work of the first year are as follows:

1. To quicken the child's powers of observation.
2. To add to his store of knowledge by adding to his experience.
3. To provide material that will stimulate motor activity and vocal expression.
4. To provide him with a basis for comparison.
5. To establish correct relations between the child and his surroundings, pets, parents, playmates, and finally to lead to recognition of his relations with his Creator.

For convenience, the material for nature study may be grouped under the following headings: (a) plant life; (b) animal life; (c) physical phenomena. A small number of subjects selected from each division and presented so that the entire body of instruction reveals the interdependence of the different subjects will produce better results than will be gained from discussion of unrelated phenomena. The teacher's first task, then, is to study the child's surroundings and to choose therefrom her points of departure.

In all nature study, emphasize function and adaptation to life, rather than a detailed study of size, form, and color, which are to be taught more incidentally as affording means for the comparison of one subject with another. Teach first the subject as a whole, then parts or organs and their relation to one another and to the whole. The plant and animal study should be, in large part, a study of the living

plant and the live animal, the habits of life, processes of growth, beauty, etc., not chiefly analysis and the naming of parts. Teachers who prefer to teach the latter do so because these facts can be learned from books, while living processes must be learned from constant, close observation. The teacher who would conduct nature study in a true spirit must approach the subject in the attitude of a learner. She must have a personal knowledge of nature, a familiarity gained from actual experience. Every teacher should own some good books on the various branches of nature study; C. B. Scott's "Nature Study and the Child" is one that is especially helpful.

Do not attempt too much at first; select those topics within your grade work with which you are most familiar and which are related to the child's interest, and carry these through to a definite result. As ease and familiarity are acquired, increase the range of subjects. Success will come only as the teacher is able to arouse the interest of the children in the study of nature, not in study about nature. Do not present new subjects in nature study by pictures. Study the object itself either in the schoolroom or by field excursions. In the study of a subject, whether plant or animal, the organs and their special functions should be discovered by the children themselves; the same rule holds in the study of natural phenomena. The teacher should direct the child's attention to definite ends by judicious questioning.

**Animal Study.**—The following series of lessons is given to suggest the method of studying animals:

Lesson 1. Home and Home Life.

Lesson 2. Positions and Movements.

Lesson 3. Feeding, Washing, and Senses.

Lesson 4. General External Structure — body and limbs; comparison with man; adaptability to environment.

Lesson 5. General External Structure — head, ears, teeth, in relation to life habits.

Lesson 6. Relation of Parents to Young — feeding, mode of transportation, shelter, protection.

Lesson 7. Comparison with other animals that have been studied.

Lesson 8. Life History when this is possible.

Lesson 9. Use or Harmfulness to Man.

The cat is an excellent subject to begin with. If possible, the cat should be in the schoolroom for a few days before the lessons and during the lessons. In Lesson One, work along the lines suggested by the following topics: beauty, sociability, playfulness, calls, respects in which the cat's life is like ours, our care for pet cats. Lesson Two — Feeding habits, — (a) Drinking, comparison of the cat's method with the child's. (b) Eating. Let a child eat, and compare the cat's manner of eating with that of the child. Kinds of food that cats and children like and dislike. (c) Washing, (d) Sleeping. Lesson Three — Actions, — walking, running, climbing, jumping, creeping, grasping; peculiarities of sight and hearing. Lessons Four and Five — Structure, — legs and feet, head, ears, teeth. Compare these parts with the corresponding parts of the child. Lesson Six — Relation to young, — feeding, transportation, shelter, protection. Lesson Seven — Use to mankind.

In the study of birds, the hen can be used if some wild bird or pet does not seem preferable. Follow in general the outline given above, but do not overlook the three stages of development represented by the egg, the chick, and the hen.

Correlate the animal study with the English by the use of poems, pictures, and stories. An extensive bibliography of such material can be found in "Course of Study and Syllabus for Elementary Schools," Education Department Bulletin, Albany, N. Y., 1910.

**Plant Study.** — Plant study for the fall should include, (a) the study of one or two plants as wholes; (b) formation and dissemination of seeds; (c) protection of buds and seeds; (d) comparative study of fruits.

The work with plants should be organized and conducted with reference to the following topics:

1. Natural surroundings.
2. Organs,— their structure, functions and mutual dependence.
3. Comparison with other plants as they are studied.
4. Relation to man and the lower animals.

The dandelion and buttercup are excellent plants about which the first series of lessons may be grouped. With either of these plants, the entire study can be conducted in the schoolroom, but field lessons are desirable. A modified order of lessons from C. B. Scott's "Nature Study and the Child" is given to suggest a method of procedure.

*Lesson 1.* Preliminary. Several days before any instruction is given, direct the pupils to observe the plant to be studied and to find out and report where it grows, its size, abundance, etc.

*Lesson 2.* Preparation for field lesson. Gather up what the children have learned for themselves and prepare them for more definite observation.

*Lesson 3.* Field lesson. Lead the pupils to make defi-

nite observations upon the effect of environment upon the development of the plant.

*Lesson 4.* Review and summary of field lesson.

*Lessons 5, 6, 7, 8.* Structure, function, adaptation and relation of roots, stem, leaves, and flowers.

**Dissemination and Protection of Seeds.**— This work can be done most advantageously by field excursions. Begin with the study of some seed as a type and gather about it seeds of different characteristics. The seeds of thistle, aster, golden rod, or milkweed may be used as the type. Study the scattering of seeds by birds, by running water, by winds, by clinging to the fur of animals or the clothing of men, etc. Associate the work on seeds with motor work by the manufacture of paper seed boxes and seed envelopes; with sand work, by drawing the shapes of seeds; with English, by description and narrative by the children. Encourage the children to collect seeds for comparison and preservation; each child should make a collection of seeds and so strengthen the ideas of ownership, care, and order. Seeds should be selected and preserved for the spring planting; by this means forethought is cultivated, and through this means the study of nature's protection becomes significant. Further study of natural protection may be given through the examination of the winter buds of the poplar and horse chestnut.

**Fruits.**— Select some fruit common to the locality of the school and group other types around it. The apple or pumpkin is a good subject with which to begin. The aim should be to show the relation of the fruit to the plant and the mutual relations between the fruit and man. The order of study may be as follows: — form and color; cross section; correlation with drawing in sand; parts and their

uses; growth of fruit; uses to man and to the lower animals.

**Physical and Geographical Nature Study.**—The work in physical phenomena in Grade One should be limited to observation by the pupils. No attempt should be made to add explanations which belong properly to more advanced grades. This branch of nature study should be carried on in the late fall and the winter months; it should be grouped around heat and water, the chief factors in climatic conditions. Much of the work can be presented best by simple experiments in the classroom, for which purpose an alcohol lamp and a small basin are indispensable. The pupils should be familiar with the lamp and its flame before experimentation is attempted, as, otherwise, attention will be diverted from the experiment to the lighted lamp.

The following topics may be of value as suggestive of lines of experimentation.

1. Properties of water,—solution, buoyancy, absorption.
2. Evaporation,—boiling and slow evaporation.
3. Condensation.
4. Forms of water,—fog, mist, vapor, clouds, frost, etc.

The most striking of the forms is that of snow; observe its beauty, its purity in masses, the beauty it gives to nature. Study the shapes of crystals and correlate with motor activity by drawings in the sand box. Correlate with paper work through the manufacture of sleds, etc. Read poems about the snow and stimulate the children in forming mental images of winter scenes.

Make observations upon the direction of winds, the appearance of clouds, color of sky at morning and evening,

position of the sun at a fixed hour of the day, etc. Teach the children the use of the compass and of the weather vane.

#### NATURE STUDY.—GRADE ONE.—SPRING

**Animal Life.**—Make a comparative study of several of the common birds, such as the robin, sparrow, and swallow, with particular emphasis upon nest building, care of young, relation to plant life and to man. Follow the plan of the animal study given in the fall by selecting one bird as the type around which the work is organized. Stimulate interest and observation by keeping a bird calendar (on the blackboard, preferably,) with date of observation and name of observer.

**Plants.**—The plant study in the spring should emphasize germination and growth. Much of this study can be done in the classroom. Different kinds of seeds should be planted and a comparative study of their rates of growth should be made. Ask the pupils to bring from home vegetables, roots, and bulbs, that have already begun to send forth shoots,—potato, turnip, dahlia, etc. Observe the daily growth of some particular shoot of one of the vegetables; place twigs of willow or elder in water in a sunny place, and study the bursting of buds and the growth of leaves. Show that growth is dependent upon heat and moisture. The bean or the pea may be planted in boxes, seeds may be sown between a moistened blotter and the side of a bottle which the blotter lines and here studied as the roots begin to shoot forth.

When the buds and leaves on the trees indicate that growth has begun, study these in the field, confining the work, for the most part, to a series of repeated observations upon buds, leaves, and flowers of plants or trees, com-

paring these with the development of parts in some one plant, stage by stage. An apple tree is a good subject for spring study since the development can be traced with the growing fruit. Study the growth of plants from underground stems, etc. The lily-of-the-valley, solomon's seal, and the trillium are excellent for the illustration of such growth. Make a comparative study of leaves, their shapes, size, etc. Teach the children to admire the flowers in their natural home, but discourage the ruthless picking of flowers. Keep a flower list to cultivate the habit of observation in the child, record on this list the name of the flower, the date when it was found in bloom, and the name of the first observer. Correlate the work with other branches of school activity, draw the leaves in sand, make the observations the basis of oral composition and stimulate emotional appreciation by frequent readings from poems, and by memory selections.

#### ART STUDY.—GRADE ONE.—SEMESTER A

**Color and Form.**—During the first term, instruction in art should be, for the most part, instruction in the use of color in mass and in the recognition of the simpler colors. Colored crayons, colored pencils, and water colors should be of the three primary colors at first — red, yellow, blue-green — but, after a little, other colors may be used. In this matter the teacher does well to be conservative about the introduction of a wider range of colors. In the drill in recognition, the color disks may be used to establish with accuracy the standard colors and advance may be made as rapidly as recognition becomes accurate and immediate. By the use of color in mass, leaves, fruits, simple flowers, and easy forms may be reproduced.

Emphasis should not be placed upon accuracy of drawing beyond some study of form in the sand-box drawings. Effort should be directed to the visualizing of correct forms through the comparison of pictures, of objects of a kind but of differing perfection of form, e.g. apples, and of drawings made by the teacher. The mental copy should be made as perfect as possible during this time when the muscles are not yet ready for exacting effort.

#### ART STUDY.—GRADE ONE.—SEMESTER B

**Color, Form, and Drawing.**—The materials for use are crayons for blackboard work, soft marking crayons, black and colored, charcoal, brush with ink and water-color, boxes of seven colors, white, gray, and manila drawing-paper, also charcoal and Japanese rice paper.

Plan the lessons with special reference to drawings, placing, arrangement, spacing, proportion, color. Hang the pupil's work on a line for class inspection and criticism. The critical faculty will develop more rapidly than the power to execute. Cultivate the imagination that the child may see more clearly with the mind's eye, may visualize; train in observation, in the desire for truthful presentation, in the feeling for color and in skill in its use. Let the children draw from nature, from memory, and to illustrate poems, incidents, etc. Use bright colors and coarse points.

#### PENMANSHIP.—GRADE ONE

As was stated under the subject English, any writing for purposes of communication or record should be done with a coarse pencil or crayon in what might be termed

a vertical hand; such writing will be very limited in amount and can hardly be thought of as establishing a hand. The desired hand is the inclined forearm movement, but the accessory muscles are as yet too undeveloped for any systematic training in the details of such hand writing. It is desirable, however, that a correct mental copy for words should be established, and that the fundamental muscles upon which the activity of the accessory muscles will in their time depend should receive exercise. At first, the teacher writes a simple word on the blackboard and calls attention to the letters, writes it several times with varying excellence that the different copies may be compared but leaves only the best on the board. Short sentences are visualized in the same manner. In the second term, large marking crayons may be distributed and drill given in up-and-down strokes and in oval movements for the training of the large muscles. Cards with perfect copies for practice in quick recognition may be used. Copies may be distributed for tracing through transparent paper if such have been pasted to blocks. Whatever the devices the teacher may use, she should hold clearly in mind that her task is to lead the child to visualize and to train fundamental muscles only, not to teach him to write. Much of value concerning method in art and in penmanship can be learned from the "Teachers' College Record," Vol. VII, 1906.

#### MUSIC.—GRADE ONE

Notation should not be taught in the first grade but rhythms should have emphasis and the children should be led to carry the musical image mentally. The work consists of songs associated with daily experience, such

as "Snowflakes," in Niedlinger's "Small Songs for Small Singers," which is used in the Horace Mann School. Mood, description, characterization, should be felt by the class. Each feature is to be worked out,—the flowing, gentle rhythm, a moderate tempo, and the desired quality of tone. The rhythm pattern can be given by clapping. The song may be sung in alternate silent and audible phrases, the children carrying the musical image when silent.

The gains that should be carried into the second grade are:

1. A tone more musically sustained and concentrated than the shouting voice or the too relaxed tone.
2. Usually, a complete change where pupils have sung in monotone.
3. A repertoire of twenty or thirty songs.
4. A habit of listening to variations in sounds.
5. Ability to recognize and describe the more obvious effects arising from the various relations of pitch, tempo, rhythm, force, etc.

#### PHYSICAL TRAINING.—GRADE ONE

**Plays and Games.**—The development of self-control through plays and games is one important object in this training. The presence of a guide, or rather of one who will suggest, is necessary, but initiative and leadership should be left so far as possible with the children; coöperation may be suggested, but the associating of groups and the agreement for common action should come so far as possible from the children themselves. The competitive element should be absent from these games unless

introduced by the children themselves. Games of value in this grade are:—Drop the Handkerchief, Hare and Hounds, Follow the Leader, Crossing the Brook, Passing the Beanbag.

**Gymnastic Training.**—Every child should be subject to the observation of one skilled to detect physical defects, although the extent to which formal examination should be carried will vary with the child. For example, few children in this grade can give any report of much value in regard to nearsightedness or dullness of hearing. At least twenty minutes each day should be spent by each child in the gymnasium with a special teacher. The exercises for each should be planned, first, for the correction of known defects; secondly, for general development. The general exercises should include marching and dancing, leg and body exercises, which may be carried out by the aid of dumb-bells or, to some extent, by the use of such apparatus as ropes, stall bars, horizontal ladder, balance beams, giant stride, jump standards, etc. All formal exercises should be given with music.

#### SEAT WORK.—GRADE ONE

While the work defined above is sufficient to keep every child occupied all the time, it often happens that the exigencies of the schoolroom make the prompt provision of an activity suited to the child impossible. It is well, therefore, to have in reserve certain tasks that can be drawn upon to fill such vacant periods, for nothing can harm a child more than the growth of a habit of dawdling or the listless passing of time. For this reason, the following discussion of seat work, a summary of the work provided in the Horace Mann School as given in the "Teachers' College

Record," Vol. VII, is added to the syllabus for Grade One.

The object of seat work is:

1. To keep children occupied.
2. To teach them to work independently.
3. To teach them to work neatly and accurately.
4. To develop consideration for others.
5. To supplement the work of the lesson period.

In the introduction of new work the teacher or assistant should direct, but later each child should work independently.

Suitable exercises are:

1. Words printed on cardboard may be built into sentences that are hung before the class.
2. Sentences selected from the reading are built up from memory.
3. Original sentences are made.
4. Written sentences are reproduced in printed words.
5. Words printed on paper are pasted in dictionaries.
6. Dictionaries are made from manila paper 8" x 5" for leaves, cardboard  $8\frac{1}{2}$ " x  $5\frac{1}{2}$ " for cover; fold, tie, paste capital and small letter alphabetically at top of each page.
7. Letters printed on inch squares of cardboard to reproduce words.
8. Letters to build sentences.
9. Phonograms built up by letters.
10. Illustrations for reading lesson by drawing, painting, or paper cutting.
11. In counting — a list of figures on the board reproduced in stringing beads with button between numbers.
12. Stick laying to meet directions for three twos, etc.
13. Manual work in cardboard, etc.

## CHAPTER III—GRADE TWO

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### PROGRAM FOR GRADE II

#### FORMAL STUDIES

##### FORENOON

<i>Hours</i>		Groups		Groups	
		A	B	A	B
9.00- 9.10	Music (song), recitation in chorus,	10	10	..	..
9.10- 9.18	Demonstration (Paper Work),	8	8	..	..
9.18- 9.33	Arithmetic and Plane Form, Paper Work,	15	..	..	..
9.33- 9.48	Arithmetic and Plane Form, Paper Work,	..	15	..	..
9.48- 9.56	Gymnastics, out of doors or in gymnasium, marching and de- velopment exercise,	8	8	..	..
9.56-10.02	Luncheon,	6	6	..	..
10.02-10.07	Demonstration (Clay Work),	5	5	..	..
10.07-10.27	Phonics and Reading, Clay Work,	20	..	..	..
10.27-10.47	Phonics and Reading, Clay Work,	..	20	..	..
10.47-10.56	Recess, Free Play,	9	9	..	..
10.56-11.02	Story Telling by Teacher,	6	6	..	..
11.02-11.22	Oral Composition by motor groups, with penmanship in- struction twice a week for fifteen minutes,	20	20	..	..
	Written Composition,	..	..	15	15
11.22-11.45	Games, Dramatization, etc.,	23	23	..	..
11.45	Dismissal.				

## FORMAL STUDIES

## AFTERNOON

*Hours*

		Groups		Groups	
		A	B	A	B
				<u>1, 2, 3</u>	
1.30- 1.40	Roll checked, Individual Memory Selections,	10	10	..	..
1.40- 1.46	Demonstration (Sand Work),	6	6	..	..
1.46- 2.01	Reading, Sand Work,	15	..	..	..
2.01- 2.16	Reading, Sand Work,	..	15	..	..
2.16- 2.31	Nature Study,	15	15	..	..
2.31- 2.39	Recess,	8	8	..	..
2.39- 2.46	Luncheon,	6	6	..	..
2.46- 3.01	Drawing and Color,	15	15	..	..
3.01- 3.11	Reading by teacher, or Memory Selections,	10	10	..	..
3.11- 3.26	Music,	15	15	..	..
3.26- 3.34	Plant Care,	..	..	8	8
3.34- 3.54	Cord Work, or Gardening,	20	20 or 20	20	20
3.54	Dismissal, or volunteer work in the garden.				

## COMMENTS ON THE PROGRAM FOR GRADE II

No continuous description of the day's work is necessary for Grade II since in most particulars the procedure duplicates that in Grade I.

**In arithmetic**, the content for this grade is less closely restricted to facts derived from paper work, although the range of computation arising from the paper work is greatly increased. Gardening now affords many data for arithmetical exercises, and nature study a few.

The **study of plane form** advances through the introduction of the triangle, the circle, and some inscribed figures in paper construction, and solid form becomes familiar through construction in sand.

The **work in clay** cultivates observation through the modeling of objects, develops coördinated control of muscles, and strengthens the sense of form.

The teacher's **story-telling** in the forenoon presents in sequence the incidents which will supply the child with an outline for his efforts in oral composition. These incidents must often be given one by one, and then repeated by the children before the connected tale can be attempted. This drill should not be so exacting that the language will be repeated but should give the substance or point of the incident and the effective sequence. A series of black-board drawings is often more effective than many repetitions.

In **oral composition**, the greater profit is in the exercise itself although the listener gains something. Economy of the pupil's time, therefore, is furthered when he is occupied as much of the time as possible in the direct labor of composition. If, then, the most of the class can devote

themselves to individual tasks in written composition while the small group serves as audience for the narrator, the time of all will be most profitably employed. This saving of time is accomplished by calling one motor group at a time for oral composition while the rest of the class write the story.

Instruction in **penmanship** in the second grade does not have for its main object the forming of the present handwriting of the child, but the cultivation of the more fundamental muscles upon which the pupil will rely when in later grades the forearm movement determines the hand. In this grade, for two periods in the week, practice on ovals and forearm strokes displaces oral composition. The children should be supplied with cheap foolscap paper and well-sharpened pencils and should follow the teacher as she writes upon the board and counts the more important movements to secure rhythm of movement and uniform speed. Frequent rest periods are necessary, but these should be devoted by each to a criticism of his own work; each should take measurements to determine departure from the desired slant, should test by the eye and by measure for crowded or irregular groups, and by various devices should seek to train the eye through comparison and criticism to detect defects in execution and to judge of the advance he is making. The devices used must be simple, the results gained will seem small, but the habit of self-criticism will be strengthened. A friendly rivalry will prevent monotony and the dullness of routine.

Little need be said concerning the afternoon program before we reach the subject of **drawing and color**. Drawing with the ruler in the paper work is the beginning of mechanical drawing; freehand is employed, for the most part, in picture stories, representation for its story-telling

value, but also includes the drawing of natural objects, and, possibly, some slight beginnings in combinations for decorative purposes. Water color and crayon aid in the presentation of natural objects, and some drill with the color disks to extend the knowledge of colors will probably be desirable also.

The reading by the teacher may take the form of story-telling; its purpose is the enlarging of the pupil's knowledge and appreciation of literature. The teaching of choice memory gems may displace the story-telling at the teacher's option since both exercises have a common purpose.

As Froebel has pointed out, the service of the child in the care of living things brings a recognition of his coöperation with some vaguely discerned power in the maintenance of life, a greater consideration for living things, and a sense of responsibility for those committed to his care. Each child has his own plant which dwindle<sup>s</sup> and dies if he neglects it, and this period for plant care is set apart that each may care for his own and indulge his interest and curiosity in the inspection of the possessions of others.

The preliminary **work for gardening** can hardly begin to advantage before February 1st. Before that date, the period is used for cord work which finds a direct use in many articles and introduces the knitting of later grades. When the work outdoors begins, children should be encouraged, if the weather is propitious, to continue their tasks until their garden-plots are fully cared for. They may learn thus that the work itself is more important than the closing hour and may come to feel their school life akin to their voluntary outdoor activities. The written consent of the parent for an extension of time by a half hour or more will often prevent misunderstandings.

## SYLLABUS FOR THE SECOND GRADE

### ENGLISH.—GRADE TWO

**Phonic Drill.**—The drill in phonics in this grade is to secure, (a) distinct articulation, (b) pure tone, (c) the power to read new words and to pronounce them accurately; in brief, to promote the mastery of the mechanics of reading. Emphasis should be placed upon initial and final consonants and upon the correct utterance of sounds like oi in soil, er, ir, ur, in fern, girl, and burn, ing in final syllables, etc. Review the work done in the first year. Drill on the production of sounds, the blending of elements, and the analysis of words into their phonic elements. Seek variety by using a blackboard chart of phonograms, permitting the children in competition to give the sounds indicated, pointing to each phonogram as it is uttered. The training of the ear is as important as the drill in speaking. Let one child speak the sound combination and the others find the phonogram. Teach the children to be watchful for pronunciation in their classes and to seize the opportunity to show what phonogram was mispronounced. Be so persistent in regard to correct position and correct breathing as to establish habit in these particulars. Poor pronunciation and poor reading are often the result of nervousness or lack of self-control; the child who stands quietly free from any support and reads or speaks is acquiring a self-control of the greatest value; so also the child who reads without undue haste and with distinct articulation has acquired a self-possession of more worth than much knowledge.

For at least one-half year, each formal reading lesson should be introduced by a drill on phonograms and by exercises in deep breathing. Whenever difficulties arise

in the reading lesson, the teacher should turn to the chart and give the drill necessary to enable the pupil to overcome for himself his difficulty, after which repeated practice will train the vocal muscles in the coördinations required.

**Reading by the Pupil.**—The objects sought through the training in reading in Grade Two are—(a) facility in pronunciation, (b) quick recognition of words, (c) comprehension of thought through silent reading, (d) interpretation of thought through oral reading. The method followed should be similar to that employed in the preceding grade. The selections chosen should present much action that can be dramatized and should be of distinct literary excellence. Nothing introspective and little of sentiment should be included.

Train the children to recognize phrases at sight as a group of words having a special relation to the other parts of the sentence. Failure to recognize words as a group leads to a halting, monotonous style of reading. Drill in the recognition of phrases can be given by the use of cards on which phrases have been printed, as in Grade One word cards were used.

Selections in the form of dialogue are valuable in primary reading. By impersonation of the characters of the story, the children will catch the spirit of the text and interpret it naturally.

Insist upon natural but controlled voice. Children often pitch their voices too high; this is an indication of nervousness. The habitual use of clear, quiet tones by the teacher will do much toward the correction of this defect. All exercises that habituate the child to measured action and self-control in movement and utterance will facilitate the acquiring of a well-bred intonation and pitch of voice.

The silent reading of the sentence or paragraph should always precede the reading aloud. Often the selection should be read silently and the substance of the paragraph given without the book. The ability to grasp thought through silent reading is of first importance, and no training is more neglected in our schools than that which gives the pupil this power. A very considerable amount of text should be read in this term, much more than a single second reader contains. Stories and poems that the children love may be read many times but no text that does not appeal to them should be read a second time; new matter should always be supplied in abundance.

For an excellent discussion of method in primary grades, see "Special Method in Reading for Primary Grades," McMurry, The Macmillan Company.

**Reading by the Teacher.**—Systematic reading or reciting by the teacher affords one of the best means for strengthening the pupil's power to grasp thought addressed to the ear rather than to the eye, for quickening his appreciation of thought and of ideals that he can as yet grasp in outline only, for broadening his vocabulary and command of phrasing, and for enlarging his knowledge of customs and scenes other than those of his neighborhood. Selection of stories and poems should be governed by the principles laid down for the first grade but these may be interpreted less narrowly than in the earlier work. In the choice of material, the value of the text, (a) in literary quality, (b) in thought units that can be used in motor work, (c) in its opportunities for dramatization, should be kept in mind. If the thought units are grouped around pastoral life in this grade, as in the Horace Mann School, the bibliography given in the "Teachers' College Record," Vol. VII, will afford an ample supply of reading. For motor

exercises more closely graded for difficulty and for the cultivation of the emotional nature, the following may be suggested: Andersen's "Fairy Stories"; Grimm's "Folk Stories"; Firth's "Stories of Old Greece"; Poulssoon's "In the Child's World"; Cooke's "Legend of the Northland"; Longfellow's "The Village Blacksmith"; Stevenson's "Child's Garden of Verses"; Baldwin's "Fairy Stories and Fables"; "Stepping Stones to Literature" (Book II); "Graded Classics" (Book II).

Story-telling should not displace reading by the teacher but rightfully holds an important place in the education of the child's taste for literature; it is a difficult art in which the teacher should acquire a high degree of skill. The chapter on "How to Tell Stories to Children," in "Special Method in Reading for the Grades," McMurry, will be found helpful.

**Oral Composition.**—Follow the suggestions given for oral composition in the first grade. Encourage the children to converse freely with one another concerning their daily experiences, and in these exercises establish habits of correct inflection and emphasis. Require the children to speak distinctly and in natural but controlled tones. Train the children to make complete statements in reply to questions asked by other pupils or the teacher. Discuss those subjects that are to form the basis of written compositions. Lead the pupil to incorporate into his vocabulary of use the new words that he acquires from the reading lessons, memory selections, reading by the teacher, etc. Encourage the children to express a thought in various sentence forms. Make oral composition an important feature of every phase of the daily life.

Training should now be given in continued narrative. Many children talk in scraps; they should learn to tell their

story in its completeness. At first, a story two minutes long will be a great achievement, but practice will enable them to maintain a narrative for five minutes or longer. Children should be taught, when speaking, to stand quietly, without leaning against a desk or chair for support. This is often best accomplished by providing some means for the outflow of nervous energy, a pointer or expressive action accompanying the tale. Aimless reflex movements are objectionable, but controlled significant action is highly desirable. Through the exercises in oral composition, the training in self-control can be advanced, perhaps more readily than in any other school exercise.

To secure sustained narration, a topic is required which will present a series of acts or incidents so related that each depends upon the one preceding. The story of one's adventures on the way to school is a popular exercise. A series of drawings representing the salient points of the story can be placed on the board in colored crayon. As the teacher draws the pictures, the children should discuss each scene and gain a clear idea of transition from one point to the next. Afterwards, each child, pointer in hand, should tell the connected story, resting the pointer on each drawing until the tale concerning that particular scene is finished. Do not be disturbed if there is too little variety in the words and devices for transition, but commend those pupils who show new methods of transition, and seek to arouse invention in this matter.

**Written Composition.**—All writing except in the lessons in penmanship should be done on unruled paper with a very soft lead pencil. The letters must be large, three-fourths of an inch being the minimum height of the one-space letters. The words and sentences should be written on the board by the teacher in an accurate business hand,

since these will form the mental copy for the child. The child's hand should vary from the vertical toward the standard presented in the teacher's copy and the movement should be forearm so far as these muscles are yet under control. Emphasis should be placed on legibility, not on the form of the hand, as the child is yet too young for systematic training in the forearm movement for sustained writing of entire words.

The first written exercises should include the copying of words and sentences taken from the reading lessons, the memory selections and dictation. Through these exercises, the use of capitals, period, question mark, apostrophe, and simple abbreviations is learned. Teach the children to write their own names, addresses, the days of the week, etc. The use of writing as a record for the preservation of knowledge should be made clear by its daily use in the records of nature study and motor activities. Further, constant exercise in written composition is necessary throughout the elementary grades to enable the child to approach his facility in oral composition; he will never attain the facility or skill in structure with the pen or pencil that he has acquired with the tongue as long as oral composition is systematically taught. Oral composition should, therefore, precede the exercise in narrative written composition, and the theme chosen should always be one of interest to the child; such as an incident at home, something about his pets, games, sports, toys, school, etc. Do not expect any results in written composition in this grade at all comparable with those obtained through oral composition; a few short sentences will be the length of many attempts in written composition.

**Spelling.**—The causes of poor spelling are many but the remedy is one. The written word should be visualized

and its letter content accurately memorized. If the eyesight is defective, the mental vision will be vague or inaccurate; if attention is weak or the first impression lacks energy, the recalled word form will be vague; if the child has lost confidence in the accuracy of recollection, he will hesitate and spell with uncertainty. To secure effective mental vision, attention must be concentrated on one or on a few words. From six to ten words a day should be placed on the blackboard, sounded phonetically, used in sentences, copied, studied, and written the next day, from memory. In addition, each child should collect in a blank book all common words that he has misspelled and special exercises in the use of these should be provided for him.

**Memory Selections.**—Continue the work of the first year, review the selections already memorized and select others that are worthy. Lists of memory gems appear in every educational periodical. The list from which the teachers of the Horace Mann School select is given in the "Teachers' College Record," Vol. VII; the selections assigned by the State Education Department for New York state are listed in the "Course of Study and Syllabus for Elementary Schools" for 1910.

**Dramatization.**—Dramatization of literature has an important place in the second and following grades because, (a) it helps the child to understand literature, (b) it leads him to love literature, (c) it makes him self-reliant and invites initiative, (d) it enables him to discern the connection between literature and the life he himself knows, (e) it leads him to forget himself and leads children that are diffident or retiring to express themselves as they rarely do in the formal exercise of reading, (f) it cultivates the memory in the recall of text and of appropriate action,

(g) it cultivates the imagination and exercises the mental power of visualization. The dramatization in the second grade should be, for the most part, impromptu acting of stories and fables. "Cinderella," portions of "Hiawatha," parts of "Robinson Crusoe" afford excellent material.

Scenic accessories should be only such as the schoolroom affords. The cloakroom will answer for a costumer's shop as make-believe accessories should not be too elaborate. The assignments for parts should also partake of the impromptu character, should be made, apparently, on the spur of the moment, and the representation should be given at the opportune moment, with no assigned place in the program for the day.

For suggestions, see "Primary Plans," January, 1910. Sara Cone Bryant's "How to Tell Stories to Children," Mrs. Bell's "Fairy Tale Plays and How to Act Them," Longmans, Green & Co.

#### MOTOR WORK.—GRADE TWO

**Paper Work.**—The work in paper and cardboard, this term, should develop ability in observation, facility with numbers, originality of expression in construction and in designing, in color, and in the choice of material. All paper work should correlate, first, with number, but also with drawing, nature study, and language both oral and written. The thought units and the correlation should be made clear to the pupils by application and by statement. No part of the task should be assigned the pupil without some idea of its relation to the whole. An acceptable general theme is that of Pastoral Life for which Robinson Crusoe affords a fine introduction with many tasks of construction which fall easily within the range of the child's activities.

The exercises should afford a graded advance in the use of measurements for which cardboard rulers marked off into inches, half, third and fourth of the inch, should be provided. In drawing, practice advances from the ruler to the use of the circle marker and finally, before the close of the year, to the pencil compass and triangle in more complicated tasks than the making of right corners as in Grade One. The study of form passes from the drawing of square corners to the construction of the rectangle, the triangle, the circle, and inscribed figures. The finished articles present the square, the solid triangle, and the cube. The details of manipulation increase in complexity as the child gains ability in visualizing and dexterity in manipulation. Suggestions as to exercises may be gained from Worst's "Constructive Work," exercises 17 to 36 and 135 to 148, omitting 146 and 147. The teacher should plan her work to follow the order of increasing difficulty but need not take these or other exercises in the order given.

**Sand Work.**—The sand box affords the most favorable means for treating the larger thought units as wholes. If pastoral life is the dominant theme for this year, the sand box will present the village, and here all the representations of its activities will find place. In shaping the land formations in the neighborhood of this village, the erosive action of water may be shown, bits of mirror may represent bodies of water, the various terms— island, peninsula, etc., may be made familiar, and thus an approach to physical geography may be gained. The knowledge gleaned through walks and study of the landscape can thus be utilized.

**Clay Modeling.**—Because of the ease with which it can be worked, clay is one of the best mediums for expression in art and for the study of solid form that can be used in the primary school. Some familiarity with the service of

fire in the arts may be gained through the baking of clay objects. Some notion of the development of the industrial arts in social progress can also be imparted through the use of clay which is dug from the bank, shaped into bricks for building and into jugs and pots for use.

Prepared clay can be obtained from almost any dealer in art and manual training supplies, or it may easily be prepared from the crude clay of a neighboring bank. To prepare the clay for use, place it in a bag of cotton cloth and immerse it in water. After twenty-four hours remove the bag from the water and leave it untouched until all the water has drained from the clay. Then, without taking it from the bag, knead the clay until it has the consistency of dough. About five pounds of clay will supply a class of thirty-five pupils. When not in use, the clay should be stored in a large zinc-lined box or stone crock to prevent loss of moisture through evaporation.

Desks should be covered with newspaper or wrapping paper when the clay is in use. Better still, a slate may be used as a modeling board which the child can handle easily. If the clay is in the right condition, no water will be needed; indeed, it is not advisable to use any water in connection with the clay work of the second grade.

The work in clay modeling should, in large part, be based upon the thought unit. If this is taken from pastoral life, people, houses, boats, sledges, tents, and animals can be modeled. The study of farm life and the training in observation can be furthered by modeling. Beets, apples, carrots, etc., should be modeled from the objects themselves. These art products should be sun-dried, or baked when possible, and preserved on the museum shelves in the schoolroom as the property of the child so long as his sense of proprietorship in them is keen.

**Cord Work.**—Spool knitting is a fascinating and useful exercise for a class of this grade. Wool and cotton yarn can be used for this purpose. Take an ordinary spool, insert four headless brads, an inch long, a half inch into the head of the spool. A large pin, darning-needle, or piece of stiff wire may be used to carry the yarn over the brads. Take the spool in the left hand, and place a loop of yarn over each brad, passing the short end of the yarn through the spool. Carry the yarn to the left and just above the loops which should now be lifted from the brads and allowed to fall in the center, the yarn forming new loops. The cord is kept even by pulling on the end passing through the spool.

The knitted cord sewed into squares makes a very satisfactory mat or cloth for the bath. Strips of cloth may be braided and made into rugs and mats for decoration. The study of color harmonies will be promoted if the yarn and strips are dyed in different colors. Suggestions for this work may be found in Tinsley's "Practical and Artistic Basketry"; Worst's "Constructive Work"; Louisa Walker's "Varied Occupations in Weaving."

Cord work serves as an introduction to more systematic knitting which should be undertaken in the following grades. So, paper weaving, which should be undertaken late in this year, initiates the child into the mysteries of weaving and basketry. The measuring and cutting of strips, the selection of colors and the working out of the pattern afford an advance exercise in the application of knowledge and mental power to the work in hand. All the colors of the spectrum can be used with safety, but shades and tints of these should be avoided.

**Garden Work.**—Some of the results sought through garden work in Grade Two may be stated as follows:

(1) The child becomes conscious of a certain degree of mastery over the forces of nature, (2) An idea of independence is established in the child's mind, (3) The child learns through this work in connection with other children lessons in practical ethics, (4) The different nerve centers become coördinated through motor activities, (5) A right attitude toward manual labor is developed, (6) The child comes to recognize his coöperation with the forces of nature, (7) The æsthetic sense is cultivated.

The course of study for garden work should include:

(1) preparation of the ground, (2) preliminary study by the pupils, including plan for the garden, use of tape measure or chain, width of walks, size of beds, etc., (3) selection and testing of seeds and planting, (4) cultivation, hoeing, weeding, thinning, watering.

The plowing and fertilizing of the plots should be cared for by the teacher who should enlist the services of the more mature pupils or of parents. Ten light hoes, an equal number of small rakes with iron teeth, and of garden trowels and watering pots will enable a class of thirty pupils to work advantageously. The tools should be kept in a dry place where they can be arranged in definite order. The pupils should be trained to clean the implements and to replace them on their pegs at the close of each period of work.

The preliminary study for the laying out of the garden should begin, indoors, about April 1st; it should include a plan showing the direction of the walks, their width, and also the size of the individual plots. It should include a practical application of these lessons by the laying out of plots on the schoolroom floor, and should furnish many

of the practical exercises in number work. The teacher should prepare herself by making for her own guidance a plan of the proposed garden. The walks should be at least three feet wide that the children may pass one another easily. They should extend north and south and east and west. The individual plots must be of such a width that the children can easily reach the middle from the walk; about three feet should be the maximum width. The first preparatory studies should be of the surveyor's chain or the tape line, its length, half its length, etc., and measurements should be made in the room. When the children have become proficient in measuring distances, they should determine the length and width of the plot allotted to the class and should record these data in their notebooks. Next, plan the arrangement of the plots and walks. Each child should have a plot for his own cultivation. When the size of this plot has been determined, each child should make in his notebook a sketch of the shape of the plot with the dimensions marked upon it. If possible, these sketches should be drawn to a scale. After the size of the plots has been determined, the children may draw off on the floor a space equal to the individual plots to establish its corners. All of this work should be conducted with particular emphasis upon drawing and number.

The first work out of doors should be the laying out of the garden. To avoid friction and waste of time, the children should work in groups of four, one child with mallet, one with stakes, two children with chain or tape. It may be advisable to call upon members of the fourth grade to assist the smaller children. Each child should be provided with four stakes to mark the corners of his plot. The members of the fourth grade can supply these stakes by sawing a lath into three parts which should then be sharp-

ened. The stakes should be driven firmly into the ground and the name of the owner of the plot printed upon them or upon a piece of bristol-board which is then tacked to each stake.

Now, two children, working together, can stretch the cord and draw the lines for the drills with which the seeds are planted. The seeds should be selected, as far as possible, from those collected in the fall for this purpose. The children should be allowed freedom of selection but the teacher's suggestion will lead them to choose seeds which germinate quickly and grow rapidly.

The testing of seeds should have been done indoors, beginning as early as the middle of February. The germination may be carried on between folds of moistened blotting-paper, but is better done if the seeds are placed in fine moist sand in shallow boxes. The box may be divided into squares by strings stretched from side to side and from end to end. If this is done, each pupil should keep a record of the number of seeds planted in each square and the number which germinate.

In planting, suggest that those seeds which produce the most luxuriant growth be placed in the middle rows and those of less height nearer the borders. Seed catalogs contain valuable directions for the planting of most seeds and suggestions for the cultivation of the plants. Markers should be placed at the ends of each row to show the kind of seed it contains and a plot showing the order of the rows should be entered in the notebook.

When the plants appear, the children should be taught to hoe, weed, thin, and water them. Notebooks should contain a continuous record of all that is done. Observations should be entered concerning the peculiarities and the comparative growth of different plants that the habit

of comparative observation may be cultivated. These notebooks should form an important part of the work in written composition and should frequently be inspected and criticised.

The teacher should coöperate with the mothers in securing aprons and overalls for the protection of clothing. In many schools, the mothers could supply the cloth and the girls of higher grades do the cutting and sewing. The organized school should be encouraged to meet by mutual labors as many of its needs as possible.

Correlate the garden work with drawing, number, oral and written English, clay modeling, nature study, and seek through seed catalogs, etc., to train in the getting of information through consultation of the printed page.

#### NUMBER WORK.—GRADE TWO

The exercises with number in the second grade are to be related as far as possible with the child's immediate needs and interests. The garden work, motor activities and nature study, as well as many incidents of daily life, call for some knowledge of number. Most of the drill work for facility and accuracy is left till the third year; a small amount, made interesting through games and various devices, is given in the second grade. Constant repetition is necessary for sure possession and facility. The following outline gives the subject matter that the pupil should possess by the close of the year but does not offer any order of presentation:

*Counting.*—By 1's and 5's and 10's to 100; by 3's to 30; by 4's to 40; within the space 1 to 20 by other numbers as used in the addition table.

*Writing of Numbers.* — Place value of units, tens, and hundreds; numbers written to 1000.

*Measurements.* — Inch, half-inch, foot, yard; dollar, half-dollar, quarter-dollar; pint, quart, gallon; minute, hour, day, week, month; reading time by the clock; writing the date, e. g. Wednesday, April 16, 1910.

*Written Addition and Subtraction* of numbers in three orders, sum of no column to exceed nine; subtraction without borrowing or by Austrian method.

*Fractions.* — Halves, thirds, fourths, fifths, sixths, sevenths, eighths, but no fractions except unit fractions.

*Multiplication.* — Tables of twos, threes, fours, and fives.

*Symbols.*  $+$ ,  $-$ ,  $=$ ,  $\times$ .

Exercises in number should be subsidiary to other activities wherever possible, and where problems are given for their own sake they should be correlated with other activities, e. g. "Mabel was washing towels. She hung ten upon the line to dry. The sun shone brightly and soon six were dry and Mabel brought them in. How many remained on the line? Draw the line and make a picture of the towels left on the line, cut oblongs of white paper with a fringe at each end and place a border in colored crayon above each fringe such as you think the dry towels had and fold these paper towels nicely as Mabel folded the towels."

The exercises in paper cutting and folding give opportunity for an advance in number work, e. g. Worst's "Construction Work" extends the number space in exercises 25 to 49 with presentation of fraction one-seventh. In preparing for garden work, number is taught by the measuring tape. Through handling the tape, the children become familiar with its markings, learn the number of

feet in its length, in half its length, in one quarter the length, etc. They are made proficient in its use by measuring distances in the schoolroom. By laying out the garden plots, they learn about area, perimeter, the tables of twos, threes, fours, sixes, and drawing to scale.

The games of the second year can be so conducted that they will become a means of much drill in the handling of number. One of the best of these games is described in Smith's "Primary Arithmetic." Cut holes in a cardboard box and number the holes. Select two children to drop marbles into these holes from the height of a table, and one to announce the points made. Let the rest of the class keep the score and announce the result in this way: Helen has 15 points and Charles has 7, so Helen won by eight points. The game keeps every child at work and encourages rapidity and accuracy as those who are ready first become the next players.

A textbook in arithmetic may be introduced during the second half-year, but it should be used to supplement the number work that grows out of the motor activities and the nature study.

#### NATURE STUDY.—GRADE TWO

Nature study in the second grade should continue the work done in the first grade. Strive to increase the child's sympathy with nature and to develop an idea of the cyclic changes in life, water, and the round of the seasons. The success of the work will depend largely upon the teacher's adherence to the ends in view and the enthusiasm with which she directs the study. Organization of the subject matter into a coherent body is the keynote to success in nature teaching. A few subjects should be

studied as types and all others grouped around these; avoid unsystematic observations, and keep the work within the comprehension of the pupils.

Carefully planned field lessons should play an important part in the teacher's plan of instruction. The field lesson affords an opportunity for studying the subject in its natural surroundings and for providing material for subsequent lessons in the schoolroom. The most important lessons, however, will be those in the schoolroom based upon the material collected during the field lessons.

All lessons in nature study should be addressed to the intelligence of the pupil, rather than to his memory. Comparison and interpretation of observations should form the greater part of each exercise. All technical terms and names should be taught incidentally as a means to an end, not for any value they may possess in themselves.

Window boxes for the cultivation of plants, and vessels in which to keep fishes, tadpoles, and other forms of aquatic life should be part of the equipment of each schoolroom. Battery jars form convenient aquaria; they are easily handled and cleaned, and allow the changing of their contents from one jar to another as occasion demands. Inexpensive, insect cages should be provided. Such cages can be made from boxes having holes in the sides to admit the air, the holes and top being covered with wire netting. The apparatus used in collecting moths, butterflies, etc., should belong to the school. All of these objects, if kept and cared for in a businesslike way, aid in connecting school tasks with the realities of life.

In the care of apparatus and in manifold other ways, a spirit of helpfulness can be cultivated. Teach the children to care for the plants and animals which form part of the equipment of the schoolroom, not as a sporadic task,

but as a duty assumed with the responsibility for its discharge. This coöperation is not primarily to lessen the teacher's burdens but for the development of the child. In the care of plants and the feeding of animals, sympathy for all forms of life will grow and the recognition that the care-taker is but aiding some unseen power and furthering the mysterious processes of growth.

**The Content of Nature Study.**—The course in nature study should include: (1) study of the plant as a whole, as parts, and the cyclic development of seed, plant, flower, fruit; (2) study of animals including one or more from (a) bird, (b) mammal, (c) insect world. These should be studied as wholes and as parts, as cyclic; for the bird, in egg, young, adult; for the insect, in egg, larva, worm, chrysalis, imago. (3) The study of water and air should reveal their energy and life-sustaining function. Water should be studied in its cyclic transformations, as rain, stream, lake, vapor, and for its function in sustaining life in plant, beast, and man. The subjects should be treated as parallel studies, and not taken in any order of succession.

**Plant Study.**—The study of plants should be organized with reference to the following topics: (1) natural surroundings; (2) organs, their structure, functions, and mutual dependence; (3) comparative study of different plants; (4) relation to man and the lower animals.

The first lessons may be based upon the wild aster which can be found in bloom in September and October.

*Lesson 1.* Preliminary. Several days before any definite instruction is to be given, direct the pupils to observe the plant and to report where it grows, its size, color of flowers, etc.

*Lesson 2.* Preparation for field lesson. Gather up what

the children have learned by themselves, and prepare them for more definite observations.

*Lesson 3.* Field lesson. Lead the children to make definite observations upon the effect of environment on the development and life habits of the plant.

*Lessons 4, 5, 6, 7.* Structure, function, and adaptation of flowers, leaves, stem, and roots.

These last lessons should be comparative and based upon the dandelion or buttercup which was studied early in the preceding year. Each child should be provided with specimens of the plants with which comparison is made. Train the child to detect points of similarity and difference. Correlate with sand work, clay modeling, drawing, number, literature, and oral composition.

The fall work should include the study of some climbing and creeping plants, such as woodbine, wild clematis, nasturtium, cucumber, squash, etc. Seek to develop the idea of adaptation of the organs of the plant to its needs by a study of tendrils on climbers. Observe the effects of frost on plant life and correlate with the study of water.

**Fruits.** — Make a comparative study of fruits common to the locality of the school, include the study of form, size, color, and relation to man and to other forms of life, correlate with drawing in sand, clay modeling, number, story work, and oral composition. The apple may be used as the type around which the other fruits are to be grouped. Show the injurious effects of insects and parasitic plants.

**Seeds.** — Encourage the children to collect seeds for the comparative study of form, size, structure, etc. These individual collections should be kept in seed envelopes and seed boxes made by the pupil, thus affording correlation with motor work. Correlate with other school activities whenever possible.

**Buds.**—The study of buds should begin late in the winter and should be continued into the spring. The work can easily be conducted by observations upon twigs of willow, elder, birch, etc., placed in a vessel of water standing in a warm place. Plan the work to show that some buds contain leaves, that others develop flowers and that others will produce stems and branches of plants. A few flowering plants, carnations, geraniums, etc., will do much to establish the idea that buds are the parts from which flowers develop. A potato or a dahlia bulb may be allowed to sprout to show that stems develop from buds. Show that the structure of the bud is such that its outer parts protect the inner portions. Correlate with clay modeling, drawing, oral composition, and literature.

**Roots.**—The study of roots should be confined to observations made when the plant is studied as a whole. Only the marked varieties of roots, such as the tap root, and the manner of branching should receive attention; these points may often be studied to best advantage in connection with clay modeling.

**Leaves.**—In the fall, the children should collect leaves, mount them upon cards upon which they should print the name of the species of leaf. The leaves may also be placed on paper, their outlines traced, and the spaces then colored.

**Stems.**—The child's knowledge of stems should be gained by a study of the plant as a whole and through clay modeling and color work.

**Animal Study.**—Seek through animal study to develop observation, a higher regard for life, and to gain material for written and oral composition. Through the care of animal life, teach responsibility for the regular discharge of duties connected with the feeding and care of living things. The observation lessons should cover the

following points: (1) home life, (2) structure, (3) habits, (4) relation to plant life, (5) relation to animal life, (6) life history.

Follow the methods of instruction outlined in the first grade. The dog or rabbit may be used as the subject of the first series of lessons. Discussions should invite comparison of new with known objects, the cat studied in the earlier grade being the leading object of comparison. Correlate with the other branches of school work.

Train the children to watch the animal and to make written records of its actions. The results will be crude at first and will consist of short, disconnected sentences, but these direct statements will teach the child the value of the sentence close. These reports will be similar to the entries in the diary of garden work in the spring.

**Birds.**—The bird study of the second year should be done chiefly in the second semester. The dominant idea should be the study of the life history of the bird. A particular bird or kind of bird should be selected by each child for special observation. When the birds first arrive in the spring, the children should be encouraged to look for their nesting places. The robin and the sparrow are good objects for study and their nests are easily found. When a nest has been found, a series of observations should be undertaken with care that the parent birds may be disturbed as little as possible. As the observations proceed, the children should note the hatching of the fledgling, its subsequent growth, development, its helplessness, the kind of food it requires, etc. The study of the young bird should reveal its dependence upon the parent bird, and the parent bird's effort to draw attention from the offspring to itself. Discussions of the observation lessons should emphasize the points of similarity in the growth and development

of the young bird and of the human babe. They should also strengthen the appreciation of the child for all forms of life.

Correlate with color work, sand work, oral and written composition, clay modeling, elementary weaving with paper and twigs or raffia, and literature. Interest the children in keeping a bird calendar on which should be recorded the date of observation, the name of the observer, and possibly some characteristic of the bird that is particularly noticeable. For suggestions, see Hodge's "Nature Study and Life."

**Insects.**—Few insects are better adapted for the study of structure than the grasshopper. Besides observations in the field, there should be definite study of the grasshopper in the schoolroom. For this purpose, a few of the insects should be confined in a breeding cage improvised for the purpose. Make four frames with light slats, cover them with fly-netting, tack them together and cover the top with a piece of netting. Set this frame over a box filled with pieces of turf bearing long and short grasses. Such a cage will permit the circulation of air which is necessary for the life of the grasshopper.

The study of the grasshopper should cover the following topics: (1) general description, (2) study of the organs with attention to function, (3) respiration, (4) movements, (5) food, (6) relation to plant life.

The caterpillar is also a favorable subject for study. The first lessons should be conducted in the field and should cover in a general way, appearance, structure, movements, food, and life habits. Insects should be secured for schoolroom study; these should be kept in fruit jars covered with netting, or, better, in a box with at least two sides of wire netting to allow the circulation of air. Keep the insects

well supplied with food. In general, each species should be supplied with the plant upon which it was found feeding.

Study the caterpillar's manner of feeding. When it begins to spin threads examine it with a magnifying glass. Notice that the caterpillar grows so fast that his skin soon becomes too small for him and that it finally splits along the back and a stout, green body appears within. The shedding of the skin will occur several times. Finally, the insect will become restless and will fasten himself to the top of his cage.

Tie a string around the stem by which the chrysalis is suspended and hang it where it can be seen but not touched. Examine the chrysalis from day to day until it bursts and the butterfly or moth comes out. The length of time required for these transformations will depend upon the species studied. The caterpillar that feeds upon the leaves of cabbage, if fed well, will grow rapidly and is likely to form its chrysalis in the breeding cage. The chrysalis can also be found under stones and attached to fences near cabbage patches infested with worms. Caterpillars found in August and September may develop into small butterflies with white and yellowish wings spotted with black.

The teacher should not depend wholly upon butterflies developed in the schoolroom. Some specimens should be captured in the fall and placed in the breeding cages where their habits can be studied.

In the spring it may be possible to study the life history of the potato beetle. Secure some potato leaves that bear a colony of eggs and place them where they can be watched from day to day. When the larvæ have appeared, provide fresh leaves upon which they can feed.

Watch the growth of larvæ and their subsequent change to beetles.

Observation upon a colony of ants will amply repay the trouble of preparation. The ant-hill or ant nest can be made with almost no expense. A wash-basin can be filled partly full of water and in this a brick may be placed, or an inverted basin, to form an island. Upon this island, two pieces of glass,—old negatives will do,—should be placed and separated by the ends of four burnt matches, a chamber being thus formed just high enough for the comfort of ants. A piece of board or of blotting-paper should be placed over this to exclude the light. By lifting this cover, one may watch the ants through the glass top of the nest. Go afield with a tin can and a garden trowel and search under stones in an old pasture. When a colony has been found transfer some of the earth, larvæ, and workers to the jar and pour this on the island close to the glass plates. The workers will transfer the larvæ to the space concealed. The food should be varied and should be placed on the island near the nest, that refuse may easily be cleared away. Crackers, bread soaked in sweetened water, sponge cake, berry jam, bits of raw meat, or yolks of hard-boiled eggs are acceptable, but all food should be soft and moist though not in a fluid state.

Correlate with drawing, clay modeling, oral and written composition. For helpful suggestions, see "The Chautauquan," Vol. 38, p. 175; Howard's "The Insect Book," his "The Butterfly Book," or his "The Moth Book." Literature correlated with nature study can be found easily. An extensive bibliography is given in "Course of Study and Syllabus for Elementary Schools," 1910, Albany, N. Y., issued by the State Education Department.

**Water.**—The study of water for this grade will divide as follows:

(1) *Forms of Water.*—Review the experimental work done in the first grade. Observe the cloud of vapor which rises from the land after a warm rain, or from the surface of a body of water in the winter. Show experimentally that cold is a cause of rainfall.

(2) *Rainfall.*—Notice the falling of raindrops and the effect of wind upon their direction and force. Show that rain sinks into the earth and forms pools, streams, springs, etc.

(3) *Transportation by Water.*—Observe the transportation of material by water after a storm. Notice the kind of material carried by a stream, examine the places where the stream has overflowed and deposited sediment. If no stream is convenient, the study of rivulets formed by the rain will teach the children that running water washes soil to lower levels and deposits it there.

(4) *Water and Soil Formation.*—An understanding of the formation of bodies of earth or of their modification through the agency of water is an introduction to the study of physical geography and of the preparation of garden soil. Bring to the school pieces of rock that have been saturated with water, show that such rock, when acted upon by frost, crumbles into small particles. Show on some beach how the rock is worn to fineness by the pounding of the waves. In some railroad cut, point out the different layers as deposited by water, explain why the top soil is darker in color than the lower layers.

**Air.**—Confine the study of the atmosphere to the evidences of its power, showing how it can turn windmills, propel ships, etc. Correlate with paper work in the manu-

facture of windmills, kites, boats. Prepare for the study of transportation and travel in the next year.

### ART STUDY.—GRADE TWO

The work in art divides into (a) work that calls for the exercise of judgment and personal feeling as to arrangement and color—simple patterns with application, pictorial drawings of flowers, trees, houses, etc.; (b) designs, drawings, or pictures related to other work in the course; (c) drawing and painting from nature.

By color work the imaginative and creative powers are trained, the child is led to observe and investigate for himself and to express graphically the impressions he has gained through his experience and study of the forms around him. By arrangement, the child learns that rhythm can be expressed not only by movement and music, but also by lines and spots of color.

A soft-marking crayon is the most satisfactory medium of expression for Grade Two, but water colors and charcoal pencils can be used with good results. A few colors chosen from the middle of the chromatic scale will produce the best results in the study of color harmony, for by this choice all danger of producing glaring contrasts will be avoided. The paper used should have a smooth, unsized surface of rather close texture. The size of the sheet used will depend upon the nature of the object represented;  $6 \times 9$  and  $9 \times 12$  are the best sizes for general purposes.

A systematic plan for the distribution and collection of material should be followed. Pupils must acquire the habit of care in the use of water colors, charcoal, colored crayons, etc. If water colors are used, each child should have a piece of cloth for cleaning his water pan and color box.

The brush should never be used for this purpose; this should be washed and shaken out on the cloth — not wiped — and left to dry.

The objects selected for study should have a simple form with large unbroken masses of color. Objects must be so placed that all can see them well; small objects such as vegetables, fruits, grasses, sprays of leaves, etc., should be placed on each desk. These will remain in position if a small lump of clay is molded around the stem. Large bodies, such as pumpkins, squashes, etc., can be placed on boards across the aisles where several can use the same specimen. Work in illustration should be given as picture writing but also as arrangement for masses of light and dark, and for color harmony. Pictures cut from papers may be placed on the background or landscape.

The drawings made by the children should be large and executed in a rapid, free-hand movement. The blackboard will be serviceable in teaching freedom of movement and in overcoming a tendency to make small drawings. The side of the crayon can often be used in covering surfaces. Small blackboards are often placed in sockets upon the desks in the schools of England, for exercises in penmanship and drawing.

Nature study, English, and incidents from daily life will furnish innumerable subjects for color work. Grasses, flowers, leaves, vegetables, trees, landscapes, silhouettes of children and animals, representations of scenes from dramatized stories and games; all can be used as material for the use of color. Simple pictures should be supplied for study, reproductions of work by Bontet de Monvel, R. Anning Bell, Nicholson, Carton Moore Parke, Jessie Wilcox Smith, Kate Greenaway, Walter Crane, Elizabeth Shippenn Green, Millet, Landseer, Rosa Bonheur, Madam

Bonner, Eugene Lambert, John Swan, and certain Madonnas and Japanese prints, are used in the Horace Mann School. Copy parts of these for action, color, and construction.

Lead the children to study action through line drawings of figures representing different activities in child and animal life, and, whenever possible, permit the children to act out their ideas. Afterwards, bring in charts of children in action and permit the children to correct their drawings by these.

Teach the children to make simple borders by repeating lines, spots, simple geometric and plant forms as units. At first, rhythmical borders of straight lines, then simple bands on articles made, the child choosing the number of bands, the spacing of them, and the colors. Afterwards, borders of flowers, trees, animals, and figures can be placed on Christmas cards, calendars, valentines, candy boxes, etc. Teach the terms, — unit, repetition, border. Paper appliquè is the best material to make the child's idea clear to himself. This work is graded in the Horace Mann School as follows:

*First.* — Straight line border in two harmonious colors, one light, one dark.

*Second.* — A border of flowers, three colors, one for background, one for stem and leaves, one for flowers.

*Third.* — A large border, each child taking a panel.

#### PENMANSHIP. — GRADE TWO

The formal training in penmanship in the second grade should not occupy over fifteen minutes a day and should be restricted to free arm movements on ovals and on the letters of simpler construction; the accessory muscles are

as yet too weak for continued exercise or for any exercises that involve controlled action by muscles of latest development. The natural slant of letters will approximate more nearly the slant of the approved commercial hand than in the preceding year. Correct position and correct holding of the pencil should now be insisted upon and supervised so closely that the habit of correct position will be firmly established; this result cannot be secured in any fifteen minutes a day, hence the teacher must maintain a vigilant oversight of all note-taking. No notes should be written standing or in any offhand fashion; provision should be made that the child, whether writing out of doors or in, shall be properly seated and shall write his best. Pen and ink should not be used earlier than the third grade.

The mental copy of the word must be the teacher's copy, not the child's written word, hence all formal exercises should be written first on the board by the teacher and such copies should remain in sight that the eye may become accustomed to the correct form.

#### MUSIC.—GRADE TWO

Through the teaching of music in the Second Grade, the sense of rhythm should be developed, and the ear, voice, and musical ability of the child cultivated. A quickening of love and desire for the best in music through the use of good, wholesome songs is more important than a knowledge of musical notation. The songs selected should have something to tell, the music should interpret the text, and the rhythm should be in harmony with the thought conveyed.

The range of tone is a matter of great importance. Children should not test severely the vocal cords but

develop the head tones before the change in voice. Songs should be written between middle C and upper E or F for the use of children, and the quality of tone should be closely observed.

Motion songs should be employed, partly because they give interest, partly to habituate the child to rhythmical movements which are the bases of the graceful poise of culture. These songs, however, divert attention from the quality of tone and often invite objectionable tones; hence must be used with caution. Patriotic songs also lead to poor tone, as shouting is often the child's sign of enthusiasm. The child should be led to appreciate the quiet intensity of controlled tone, as an index of high emotion more effective than loud or noisy demonstration.

In the Horace Mann School, the songs selected for the early part of the year are associated with vacation experiences and with the pastoral life which is the thought unit of the year. They include: "Falling Leaves," *Neidlinger*; "Nature's Good-By," *Hill*; "Harvest Song," *Smith*; "Jack Frost," *Neidlinger*; "Snowflake," *Gaynor*; "Christmas at the Door," *Smith*; "Away in a Manger," *Hofer*; "Christmas Carols," *Gaynor*; "January," *Knowlton*; "What Robin Told," and "Dandelion," *Knowlton*; "Caterpillar," *Neidlinger*; "Song of the Shearers," *Gaynor*. From the shepherd's life, "Hare and Hounds," "Run, Sheep, Run," "Song of the Wool," *Miss Hill*; "Spin, Lassie, Spin," *Reinicke*. For patriotic songs, "For Peace and for Plenty," *Knowlton*; "Flag Song," *Gaynor*; with others are used.

Scale songs will exercise the power to think and to analyze, such as "Down Come the Autumn Leaves Whirling Around"; "Up Goes My Pretty Kite in the Blue Sky," on which as themes the teacher can introduce such varia-

tions as the class may be prepared to appreciate. The children should note what gives expression — the accent, grouping, length of notes, high and low, and picture the movement on the blackboard. The teacher would be wise to read the "Teachers' College Record," Vol. VII, for suggestions in building up the child's understanding of music, but the following brief notes may be useful:

*First.* — Ask whether the tune tells the same story as the words, Neidlinger's "Tick-Tack," for example.

*Second.* — Study the relation of accented to unaccented tones. Use for this purpose complete musical passages or phrases. Let the children mark the accent by walking or by hand movements, then write large circles for accented tones and small for unaccented ones; place a vertical line before each large circle to divide into measures. Take up the Mother Goose jingles, let the children discover three kinds of duration in these, place dashes over circles to indicate relative time, lines over measures to indicate equal time; this gives a rhythmic picture. Later, eighth notes may be placed over dashes for quick time and half notes over long notes.

*Third.* — Teach high and low notes, first, by raising and lowering the hands, then by dashes placed high and low, then lines may be introduced and tones placed on lines and spaces. The children can now learn that doh, me, soh, will all come on lines or on spaces; this gives the grouping by thirds. Toward the end of the year, regular notation should displace picture notation.

There should be practice in making songs, first, the words for a song, then the tune. This song-making should be associated with occupations.

## PHYSICAL TRAINING.—GRADE TWO

**Plays and Games.**—A clear understanding of the nature of play is of the highest importance for teachers. The fundamental difference between free play and controlled play, or games, should be kept in mind and adequate provision made for both. The instinct for play is nature's means for securing the necessary exercise for all the muscles, particularly for the fundamental muscles, of the body. Exercise begins as free play, reflex activity, and continues as voluntary but unorganized activity. As it is, at first, without effort for control, it is without nervous tension, indeed, relieves the nervous system of tensions due to superabundance of energy in unexercised cells. With controlled action comes tension, but in games this tension is confined to cells that in ordinary school occupations have lacked due exercise and, therefore, is desirable if kept within due limits.

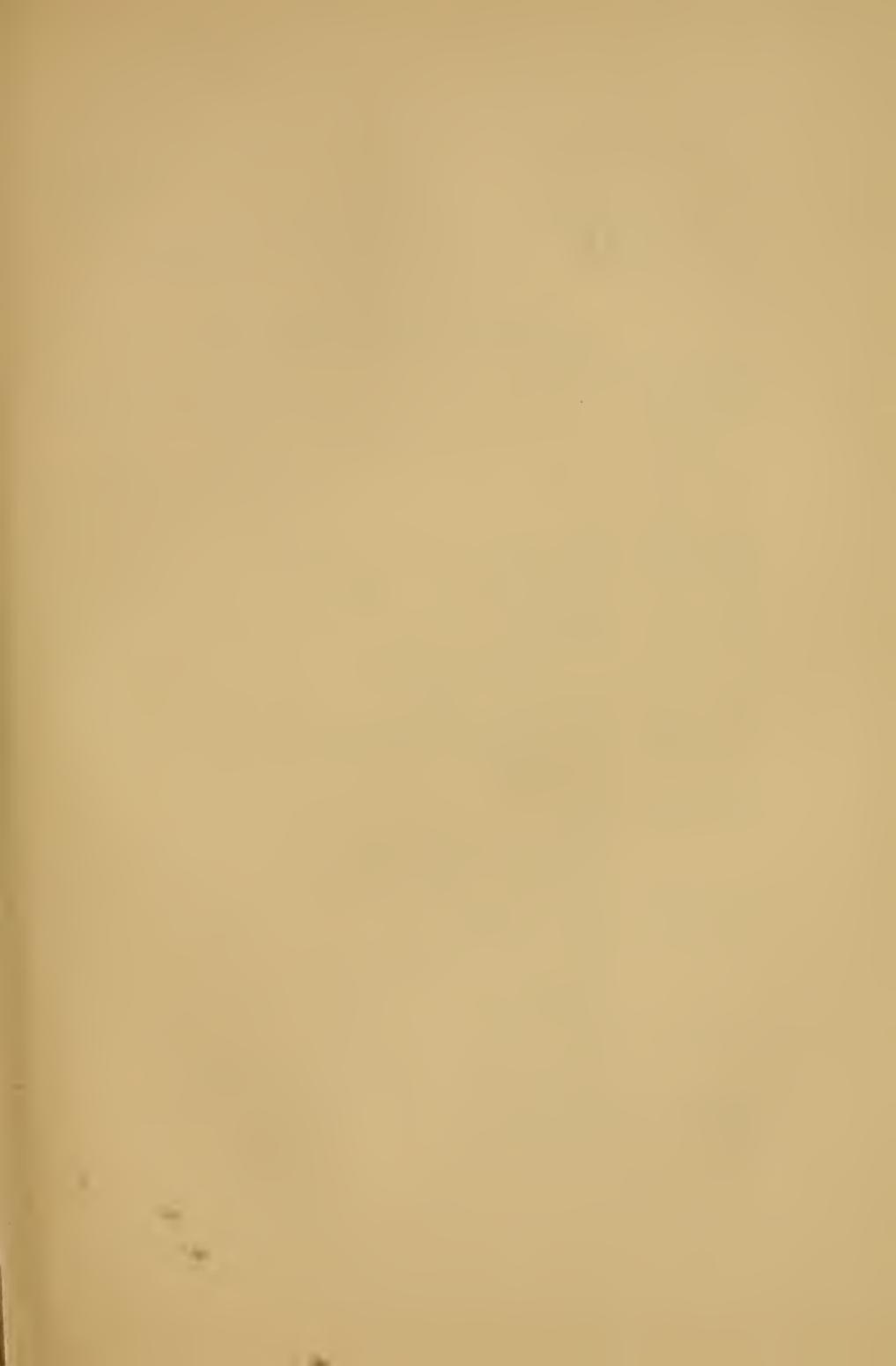
Games, however, serve other purposes in the development of the child as important as that of exercise, if they are rightly conducted. Through games, shyness is counteracted, sociability is developed, observation stimulated. Their social value is of the highest significance; they arouse a feeling of common interest, lead to a keen but friendly rivalry, train in team work with one's comrades, in willing obedience to rules that are for the common good. They promote respiration, circulation of the blood, and develop quickness of reaction; they teach self-control, self-sacrifice, honesty, and honor.

In Grade Two, the child passes from free play that is the product of momentary impulse to imitated actions which rise to games or to the setting forth of some idea in supposed action. Games for this grade must be very simple; the fewer the rules the better; spontaneity should

be the guiding principle and, therefore, the teacher's suggestion should follow the child's initiative. The child naturally uses the knowledge he has assimilated in his plays, hence the teacher can lead him to correlate his games with other school activities. Many of the games may directly strengthen his use of number through the keeping of the score. Further, the games should lead to the exercise of fundamental muscles; these are not always the larger muscles but are those already well developed.

Among the games that may be used in this grade are: the various games of tag, folk dances, marching exercises, dominoes, tossing of bean bags, playing store, dramatic expression, beater goes round, hare and hounds, basketball, follow the leader, crossing the brook.

**Gymnastic Training.** — All children in this grade should be tested for sight, hearing, nervous control, muscular action, throat and nose, heart and lungs, spine and feet. Simple corrective exercises should be given where the defect is slight; for serious defects, scientific treatment by a specialist through corrective gymnastics should be provided. Besides the frequent periods for relaxation and free play, each child should spend twenty minutes each day in the gymnasium with a special teacher. Gymnastic exercises should consist of — marching, skipping, running, dancing, combination steps; the floor work should be carried out with and without the word of command and include arm and leg movements, trunk movements, jumps, etc., the apparatus used should include hand apparatus, bells and balls, and heavy apparatus, such as jump standards, stall-bars, horizontal ladder, ropes, boom, giant stride.



## CHAPTER IV—GRADE THREE

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### PROGRAM FOR GRADE III

#### FORMAL STUDIES

##### FORENOON

*Hours*

			Groups		Groups	
			A	B	A	B
					<u>I, 2, 3</u>	
					<u>4, 5, 6</u>	
9.00—9.10	Music (song), recitation in chorus,	10	10	..	..	..
9.10—9.20	Demonstration and Drawing for Paper Work,	10	10	..	..	..
9.20—9.40	Arithmetic and Form, Paper Work,	20	..	..	..	20
9.40—10.00	Arithmetic and Form, Paper Work,	..	20	..	..	..
10.00—10.08	Gymnastics and Development exercises,	8	8	..	..	..
10.08—10.14	Luncheon,	6	6	..	..	..
10.14—10.34	Phonics and Reading for two motor groups, each ten minutes,	20	..	..	..	..
	Weaving, or Pottery, or Sewing,	..	..	..	..	20
10.34—10.54	Music (new songs) etc.,	20	20	..	..	..
10.54—11.02	Recess, Free Play,	8	8	..	..	..
11.02—11.22	Phonics and Reading for two motor groups, each ten minutes,	20	20	..	..	..
	Weaving, or Pottery, or Sewing,	..	..	20	20	20
11.22—11.42	Phonics and Reading for two motor groups, each ten minutes,	..	20	..	..	..
	Weaving, or Pottery, or Sewing,	..	..	20	..	..
11.42—11.57	Memory Selections, or Games, or Dramatization,	15	15	..	..	..
11.57	Dismissal.					

## FORMAL STUDIES

AFTERNOON

## MOTOR SUBJECTS

<i>Hours</i>	<i>Groups</i>		<i>Groups</i>	
	A	B	A	B
1.30- 1.40				I, 2, 3      4, 5, 6
1.30- 1.40	Roll checked, Individual Memory Selections,	10      10	..	..
1.40- 2.00	Geography,	20      20	..	..
2.00- 2.20	Oral Composition, by individual recitation,	..      ..	..	..
	Written Composition,	..      ..	20	20
2.20- 2.40	Nature Study, Tile Work,	20      ..	..	..
2.40- 3.00	Nature Study, Tile Work,	..      20	..	..
3.00- 3.10	Recess, Free Play,	10      10	..	..
3.10- 3.16	Luncheon,	6      6	..	..
3.16- 3.31	Art (Color and Drawing),	15      15	..	..
3.31- 3.43	Reading, by Teacher,	12      12	..	..
3.43- 4.00	Gardening, or Relief Work in Geography with sand,	17      17	..	..
4.00	Dismissal, except for those who volunteer to continue for half an hour or more in gardening or relief work.			

## COMMENTS UPON THE PROGRAM FOR GRADE III

The teacher's service in the guidance of **Paper Work** in Grade III becomes more nearly that of supervision than in the earlier grades. The pupils no longer rely to so great a degree upon imitation: in many instances they can now examine the completed article to determine the method of construction, or may study a description or drawing with some intelligence. The teacher should encourage her class to interpret such directions for themselves and should, henceforth, perform the operation herself only when the pupil has failed to understand without such guidance.

The range of data **in arithmetic** grows apace as the class advances, and calculations or estimates are continually called for in the designing of decoration in weaving, or in nature study, in relief work, and in gardening. The special tasks for the period given to arithmetic are intended to impart facility and to secure accuracy in operations which have arisen in connection with constructive work.

The **studies in form** presented in the drawings for constructive projects are all to measure and involve considerable computation as well as experimental knowledge of many laws of geometry. These tasks are approaching the dignity of mechanical drawings; are, indeed, working drawings, and will in the fourth grade conform to all the requirements of mechanical drawings by the adoption of drawings to scale and the use of the draftsman's kinds of line.

Great emphasis is placed **upon reading** in this grade because, in the fourth grade, books treating of geography and travels, historical biographies and books in nature study will play an important part in instruction. It is

important that the pupil shall be prepared to gather thought from the printed page with little difficulty. The use of the motor group in reading instead of the class group releases the larger number of pupils, from the comparatively profitless task of listening, for motor exercises, while the ten or twelve pupils of the motor groups called for the reading exercise constitute a sufficient audience for the reader. With twenty minutes for ten children, the teacher is able to give more individual attention to each than would be possible with half her class in session, unless the period were made unduly long. The interruption for Music and Recess is desirable as a relief for both pupils and teacher.

**Motor exercises** occupy the most of the forenoon for each pupil; forty minutes for weaving, pottery, and sewing, besides twenty minutes for the paper work. Since forty minutes is too long a period for children of this grade to devote to one motor exercise, the three subjects are so grouped that an interchange may be made, as may seem desirable. The child that is weaving may leave his task at an advantageous point for the building of a bowl or for the drawing of the plan and decoration for his next task either in weaving or in pottery, or sewing may be substituted by the girls for either task. An assistant should have the immediate oversight of the exercises in weaving, basketry, sewing, and clay work in the fourth grade, and should be present and supervise these tasks in the third grade also. With such a field for choice of occupation, children need the steady presence of, and also suggestion from, some older person that they may plan for themselves an economical ordering of their time and may apply themselves most effectively. Their use of time and their tasks should not be planned for them, as self-control and self-

direction are all important, but suggestion quickens insight and initiative.

**The study of geography**, as shown in the syllabus, begins with the neighborhood. The data necessary for map drawing and for discussion should, for the most part, be collected on the spot. Field work is necessary for both geography and nature study, and the data obtained should form the content for oral composition; hence, the hour from two to three should often be spent out of the school-room.

**The sand-box** is no longer so prominent in the work of the class as in the lower grades but furnishes aid, here, in the study of geography. Late in the year, maps and relief work may be reduced to scale; an inch may stand for a linear foot in the one and broom corn straws broken at the inch may represent the foot in height, and guide in the shaping of hills and valleys.

With the orderly activities of this year, there is no need that the school day should close at four. In good weather, an additional half-hour might well be spent in gardening or in games, and the teacher should be in attendance Saturday afternoons to guide all who wish to engage either in gardening or in games. There is no reason why, in a school of this character, the hours of the teacher's service, with reasonable increase in salary, should not approximate those required in other fields of labor.

## SYLLABUS FOR GRADE THREE

### ENGLISH.—GRADE THREE

**Phonic Exercises.** — A few minutes each day should be devoted to phonic exercises, drill in spelling by sound, in distinct articulation, and in correct pronunciation. Give

special emphasis to final letters that endings may not be dropped nor words blended. Teach such diacritical marks as will enable the child to use the dictionary intelligently, but do not reduce the drill on diacritical marks to formal exercises. When a child finds any word or combination difficult, give the necessary phonic drill for its correct pronunciation.

**Reading by the Pupil.**—The training in reading in this grade is directed toward two ends more sharply defined than in the earlier work; the first is the mastery of the mechanics of reading, the second the comprehension of the content of reading. Oral reading is a complicated performance, involving many physical and mental factors. The eye must recognize words and reading phrases as units and must report these more rapidly than the tongue can utter them; there must be a mental consciousness, not only of the words now ready for utterance but of those that are to follow within the limits of two or more reading phrases; these words and word phrases should be associated with the ideas they indicate, i. e. the reader should recognize their meaning; further, the mind should dwell upon their significance long enough for an interpretation of the mood or intent of the writer as, otherwise, the reading will have no value as an interpretation. So far, the physical and mental activities are the same for silent and oral reading, but now comes the task of utterance. The coördinating center must rule a multitude of muscles in the coördinated activity involved in the utterance of each sound. The mind must translate the letter groups or phonograms into their representative sound factors which the coördinating center of speech must direct the respective muscles to produce. Rarely is command so perfect that this action is wholly reflex; in clear speech, there

is almost always some conscious effort which means that the mind is active here as in the more psychical steps of the process. Expressive utterance, however, involves much more than the distinct pronunciation of the words. Interpretation necessitates the control of breath, pitch, quality of tone, slides, and many devices for the indication of earnestness, emotion, etc., all of which may be treated as reflex after the habit has been once acquired, but all are acquired only by persistent imitation and repetition.

Defective training at any point in this process will result in impairment of the result in the oral interpretation of the writer's thought. A slowness of utterance which renders interpretation impossible may be wholly due to the inability of the eye to grasp a reading phrase quickly and as a unit. A game which requires quickness of sight and a comprehensive glance may be the best remedy. Cards containing reading phrases of some length should also be used as in the earlier grades. Attention may be so centered upon utterance of the words that no association between words and meaning takes place; this defect is more frequently present than most teachers realize. Drill in silent reading of the passage which later may be read orally, will aid in oral interpretation, but the child should also learn to distribute attention between utterance and the association of words and meaning. Exercises in utterance, in the overcoming of nervousness, in the acquiring of confidence in utterance, will aid him in the partial release of attention for other needs. Here, emphasis upon the purpose of oral reading, viz., that it may convey thought to the listener, is of great value. If the class sits with closed books intent to discover whether the reader interprets correctly, makes the story say what the author meant,

the reader forgets his vocal organs, leaving their reflex action undisturbed, and bends attention to the interpretation of thought. His efforts will be successful if correct habits have been established; if such is not the case, special drill in pronunciation should be given apart from the reading exercise.

The amount of text read should increase greatly this year. A division of this content into literature and reading for information should begin here. About one-half of the text for oral reading should be literature of the best, and more than half of this, in quantity, should be choice prose, for the most part in story form, and this should include a considerable amount in dialogue. Almost all of the poetry read should be included in the oral reading and most of this should be suitable for memorizing. The text for information should be read for the gathering of thought, should be read rapidly after silent reading, to impart information, read but once and then the questions arising should be discussed, with rereading only to settle disputed points. If, in reading, a pupil hesitates over a word, he should be told and the reading should proceed without further interruption. It is not necessary that the meaning of every word should be made plain, the child should learn to gather the meaning from the context, and subsequently should give an intelligent statement of the matter. These topical restatements should be considered a part of the discipline in oral composition and treated accordingly when such treatment does not divert the attention from the thought-getting which is the primary purpose of the exercise.

**For silent reading,** the most of the texts selected should have value as information and be closely correlated with other parts of the school course. If travel and exploration be

made the dominant thought unit of the year, much of this reading should contribute in some degree to this subject. Much of the silent class reading should be sight reading with a statement of the substance given in the language of the child. For seat and home reading, longer narratives or description can be given,—Brown's "In the Days of the Giants" and Cook's "Story of Ulysses" are excellent,—and reports upon the content of these books or articles should form a part of the exercise in oral composition, with occasional accounts of some brief but interesting incident in writing. This exercise should appeal to the children as a recognition of their industry in reading and should lead them to take children's books from the grade library for home reading. By this means, the quick child may acquire the broader education which is his due without the promotion which often plunges him into studies too mature for his years.

**Reading by the Teacher.**—As the child's horizon broadens, the range of reading by the teacher should become greater. The training of the child's taste in poetry depends largely upon the teacher's choice and rendering of poems. These may appeal to the children because of their rhythms, because of their dramatic quality, for the sympathy they arouse through the stirring of imagination, or for many other reasons. The favorite poems may be repeated many times and those that are not too long may be memorized. Many stories of primitive peoples should be told or read, stories of children of many lands, stories of great men which will afterwards fill their place among the historical anecdotes of the later grades.

**Oral Composition.**—Continue the reproduction of stories and descriptions as in the earlier years. Lead the children to arrange their ideas in a logical order by compar-

ing different attempts, with commendation of the best. All criticism in oral composition should wait till the effort is closed except the utterance without comment of the correct word when the incorrect has been given. So far as possible, all criticism should be constructive, no criticism so pointed or severe that the pupil will be self-conscious or embarrassed when next he attempts narration. Seek through the use of related pictures, and, afterwards, by the use of a very simple outline, to develop a logical sequence in the narrative, but do not trammel the child through the use of an inflexible outline. Seek freshness in the narration by reading the incident in the absence of two or three children and then asking one or more to tell them the story when these return. Give the children every opportunity to talk of the things which interest them. It matters little what, if the child is really interested and desirous of interesting his mates. The desire to talk which the unembarrassed child so clearly manifests is nature's sign that the time is opportune for the cultivation of speech; this eagerness, however, when the matter is abundant often leads the child to speak without orderly plan for his thought; do not check the impulse but, by failure to understand, induce him to present his thought in a more orderly manner.

Seek to expand expression in range and accuracy, in full statement, in order of words for rhythm and dependence, in sequence of ideas, introduction, and conclusion. Give attention to sentence transition, then to sequence of ideas, and finally to adequacy of statement, by calling attention to attempts in which one excelled others in the concrete accomplishment. Encourage the pupils to use the words they know but have not been accustomed to use, and to increase their stock of words.

**Written Composition.**—Continue the work of the preceding year but expand it continually. Through copying or dictation, habituate the pupils to the writing of longer and slightly more involved sentences. Discuss a picture and permit the children to make up a story which should first be given orally and afterwards written. Teach the use of capitals in writing dates, the first word of a direct quotation, the initials of a person's name, etc.; also such uses of punctuation as are called for in their own writing. Do not give formal rules but lead the children to detect the use through the examination of text that they have copied.

**Spelling.**—Strive to segregate for each pupil the words that are difficult for him. Emphasis should not be laid so much upon the spelling of new and unusual words as upon the accurate spelling of the words of daily use in writing. Since the visual copy is often corrected by the sequence of spoken letters when oral spelling is habitual, it is well to lay considerable emphasis upon oral spelling, but the eye should also be taught to detect the flaw in the form of the incorrectly spelled word. If the words misspelled by each pupil can be collected and placed, correctly spelled, under his name on the board, and if henceforth a special responsibility rest upon him for those words, the misspelling of common words will disappear rapidly.

**Memory Selections, and Dramatization.**—As in the earlier grades, the memory selections should cultivate taste, aesthetic responsiveness to that which is inherently fine in form and rhythm although the child can give no reason for his liking. The content of the poems should lead to emotional appreciation of much that heretofore has been a closed book to him, should reveal to him something of the significance of natural phenomena and of the

meaning of life conditions. This understanding of life and nature should be further strengthened by dramatization of situations and actions with attempts to present their significance as interpreted by the child. No discussion of dramatization beyond that given for the second grade seems necessary for this grade.

### MOTOR WORK.—GRADE THREE

**Paper Work.**—The exercises for this grade should be based on Exercises 40 to 91 in Worst's "Constructive Work," on "Paper Sloyd for Primary Grades" by E. A. Rich, or on some similar handbook. Advance should be made in this year's work (1) in muscular ability in hand-work, (2) in arithmetical operations involving the smaller fractions of an inch, i. e. the quarter and the eighth, (3) in knowledge of the varieties of geometrical form and the principles involved in their construction.

The arithmetical operations do not extend the number space already given but afford abundant opportunity for the application of fundamental processes to problems in which special emphasis is placed upon the work with fractions. Addition advances from such problems as the sum of one-half plus six to those where two and a half must be added to three and a half; subtraction gradually increases in difficulty until simple mixed numbers are subtracted from whole numbers; multiplication also may involve the product of an integer by a small mixed number; division may include the division of an even number by a unit fraction.

In the third grade, the pupils should learn to use machine graduated rulers having the inch divided into halves and quarters, and, late in the year, these should be displaced

by others graduated to eighths. The children should also acquire considerable facility in the use of compasses and should become able to perform many of the simplest problems of mechanical drawing, such as bisecting a line or arc, inscribing a circle in a square, a hexagon in a circle, etc. At each step of this advance, the proper geometrical or technical term should be used that the children may become familiar with the terms through use, not definition. Such terms as equilateral, inscribed, concentric, hexagon, should become a part of the vocabulary of use and be applied intelligently and accurately.

All the paper work should be based on accurate drawing; therefore, the drawing will advance from the construction of rectangles, triangles, and circles to combinations of the three figures, to the construction of concentric circles, and to the more complicated forms involving all the elements studied. In this grade, all drawing should be done with the full line, instruction in the different kinds of line used in mechanical drawing being reserved for the work of the fourth grade.

In the guidance of the work in the first and second grades, emphasis was laid upon exhibition work by the teacher that the pupil might learn through imitation; in the third grade, the pupils should slowly be led to self dependence in the interpretation of printed directions or drawings. Some of the exercises should be outlined upon the board before the work period and the pupils should learn to interpret these through the accompanying written directions. Again, the teacher may prepare a finished model which the children duplicate without instructions. Later in the year, a working drawing may be placed upon the board and the children be required to make their own drawing and then to produce the finished article from the dimensions given upon the board.

No order of exercises as given in a handbook should be followed exactly, but the order of difficulty as nearly as the teacher can determine this. Children will differ greatly in facility in mathematical computation, in ability to draw, and in manual dexterity. The spontaneous interest of the pupils and the advantages of correlation should also be regarded, and the individual choice and inventiveness should be fostered; hence, often, the tasks will be different for different members of the class although regard must be had to class work wherever illustration or instruction by the teacher is necessary.

**Weaving.**—The plaiting of strips of paper and the braiding of cords in the second grade is a fit introduction to basketry and weaving in the third grade. Raffia is the most convenient for the earlier lessons in basketry; this can be obtained from the dealers in art materials or from seedsmen who keep it in stock for the greenhouse trade. The teacher can find sufficient guidance and suggestion to enable her to undertake elementary work in basketry in "How to Make Baskets" by Mary White and in "Practical and Artistic Basketry" by Laura R. Tinsley. The suggestions concerning dyeing for effective color effects are valuable and enable the teacher to correlate the work with the study of harmony and design.

Weaving on the hand loom should begin early in the year, may, indeed, begin in the preceding year with the cardboard loom. During the early part of the year, a loom should be used that is formed from a piece of cardboard to which the strands of the woof are fastened by sewing or by running them through perforations in the board; later in the year, adjustable looms can be supplied from the woodwork of pupils in higher grades. Care should be taken that children shall not attempt to string looms too difficult for the

strength of their wrists. The needle that carries the cord from side to side should be a thin and slender strip of wood with an eye at one end to carry the cord; this can be made by the wood-workers of a higher grade.

The cloth made can be used for many purposes, mats for lamps, carpets for the doll's house, etc. When the children have become fairly familiar with the manipulation of the loom, they should be encouraged to weave in color designs which they have worked out in the drawing and color class. At first, these designs should consist of alternations of colored strips which produce a harmonious effect; later, geometrical forms may be introduced, leading in later grades to conventionalized design for ornamentation. In these respects, the weaving should correlate with drawing, color, tile decoration, etc. Among the handbooks helpful to the teacher, Worst's "Constructive Work" and "Varied Occupations in Weaving" by Louisa Walker may be mentioned.

**Sewing.**—Sewing may be introduced in this grade but the needles used should be coarse to medium and the stitches taught should be large. Aprons of simple design, caps, and other articles of common use can be sewed, also exercises may be given in the simplest kinds of stitch, but no work in sewing is likely to appeal to the child as strongly as other forms of motor work, and it is questionable whether skill is advanced more rapidly by introducing the work here or by postponing it until the next grade and seeking here to advance manual facility by other tasks. Some of the best schools do introduce sewing even in the first grade but many wait until the fourth. A comparative study for method, content, and result should be made in many different schools to determine what is best.

**Clay Work.**—A decided advance in clay work is de-

sirable in the third grade, the work developing as (a) tile-making and (b) pottery. In the second grade the children acquired familiarity with the method of handling clay and some skill in the modeling of objects; now, they can enter upon tasks that will develop the muscular sense and the appreciation of beauty in design.

The equipment for clay work need not be expensive. Well planed boards, twelve by fourteen inches, are very useful for flat work; school slates or flat roofing slates will serve the same purpose. A piece of oilcloth can be used to protect the desk and may afterwards be wrapped around the unfinished work to keep it in good condition until the next lesson hour. A few wooden tools which the wood-working class can make will be necessary, but the most useful tool is the thumb. In the earlier stages of construction, the thumb and fingers will give the general form, the tool being needed only in the finishing of the modeled object.

Prepared clay can be obtained readily from potteries or from pottery supply houses at a low rate. Local clays can be used and when too porous or too plastic can be improved by the addition of a little sand. A large plaster-lined or zinc-lined box is a necessity for keeping the clay in proper condition for working. See the syllabus for the second grade for the method of preparation for local clays.

**Tile Work.**—A clay tile offers an excellent opportunity for developing some simple and original problems in design and for cultivating an appreciation of the technique of work in clay. In constructing tiles, the pupil should begin with the square tile, pass, then, to the oblong, the circular, the hexagon, in order. There are two methods of forming the plain clay block upon which the design is placed. The pupil may roll out upon his board a sheet of clay of

the desired thickness and then trim it to the desired shape. The rolling of the clay should be done with a rolling-pin for which a piece of broom-stick will serve. If pieces of wood of the desired thickness are placed on either side of the clay the clay-sheet can easily be rolled to the desired thickness. In following the second method, or method by construction, the pupil forms the outside edge of the tile with coils of clay about one-half inch in diameter, placing them upon a modeling board or slate. The inside space is then filled in with small bits of clay well worked together. The lasting quality of the tile will depend upon the compactness obtained in pressing these bits together; tiles of loosely pressed bits will fall apart in drying. After the tile has been filled in and is of the desired thickness, from three-eighths to half an inch, it should be smoothed well, turned over and any loosely filled places filled in and the surface carefully smoothed; the tile is now ready for the design.

The paper bearing the design should be placed face down upon the tile, care being taken to get the placing exact. The design is transferred to the clay by a slow and careful rubbing upon the paper. The paper should now be removed and, with the pencil-end of the modeling tool, a line one-eighth of an inch deep should be made through the middle of the lines of the design. The edges of these grooves should be rounded so that the glaze may spread more evenly in firing. In grooving the tile, care must be taken to keep the depth of line and the width uniform. After the grooving has been done, the lines of the design and the tile, in general, may be smoothed with thumb and forefinger.

The design for each tile should be worked out by the pupil upon paper with a very soft pencil so that the lines may transfer to the clay easily. In selecting designs, the order

of difficulty already discussed under paper work should be observed. At first, combinations of geometrical figures should be used, later, designs of natural objects, flowers, leaves, roots, and animals may follow.

**Pottery.**—For pottery work, a number of plaster bats are necessary. To make these, secure a variety of sizes of baking tins, two and a half inches, three and a half inches, in diameter, and some large sized pie pans; dissolve soap in water, making it a little thicker than cream; brush this mixture quite generously over the inside of the pans before filling them with the plaster. To mix the plaster, provide a large bucket half-filled with water; sift the plaster slowly through the fingers over the water, stirring slowly until the plaster begins to appear upon the surface when the mixture should be stirred thoroughly. After a moment, fill the pans to a level surface and leave the plaster to harden. In ten or twelve hours, the plaster will be hard enough to be taken from the pans by turning them over and tapping the edges upon the table top. These plaster bats will be more serviceable than modeling boards for they can easily be turned in any direction without moving the clay from its position.

The pupil should now make a drawing of the simple bowl that he wishes to model. This drawing should lie before him in his modeling of the clay and serve as the standard copy for his work. Examples of Indian bowls and of modern pottery which are in good design and form will prove helpful in revealing the varieties of curve in contour which add interest to form.

In beginning work, the plaster bat should, first, be placed in water to absorb what it will to prevent the drying of the clay during construction. The clay supply should be kept covered with a moist cloth. Begin with a small

open bowl with, perhaps, a two-inch base. The teacher should show how the base is made and how the coils are fastened to this base to build up the bowl. Roll the coils with the fingers of both hands but not the palms. The coils should be half an inch in thickness or more, according to the size of the bowl. If the coils are too heavy, the bowl looks cumbersome and crude; if too thin, the walls sag and break. At first, the bowl should be built up with one coil at a time, coiled upon the base; later, several coils may be attached successively to the base and built up spirally. In smoothing and pressing the coils together, one hand should be kept in the inside while the other fashions the outside.

If the walls seem too thick, some of the clay may be removed with a wire tool and any unevenness upon the surface may be remedied by the same instrument. Lastly, the top should be leveled and the entire surface smoothed with the tips of the fingers moistened upon a damp cloth. After the bowl has hardened, the bottom should be finished, all superfluous clay being removed with the wire tool.

Only the more simple forms of decoration are possible for children of this grade. The incised line is the simplest and most natural form of decoration. Each design should be planned definitely before any attempt is made to apply it to the bowl. The edges of the incised design should be rounded to cause the glaze to flow evenly upon firing. The design may also be painted with water colors or with natural clays or ochres. For suggestions concerning clay work, the teacher will find much of aid in "Clay Work" by Katherine Morris Lester.

## MATHEMATICS.—GRADE THREE

The aims of the teaching of mathematics in Grade Three are four: (1) to give mental discipline through the stating of problems from data gathered from school activities, (2) to extend knowledge of fundamental arithmetical operations, (3) to increase accuracy in the use of the fundamental operations through the written or oral solution of problems, (4) to enlarge the conception of geometrical form and to enable the pupils to apply this to the motor activities of their daily tasks.

The content of the number work in this grade includes:

*Counting.*—Continued to groups of twelves as a basis for multiplication.

*Addition.*—Written addition with numbers of four orders, including dollars and cents, carrying involved.

*Subtraction.*—Begin in making change in the school store and continue in written form to numbers of three or four orders.

*Multiplication.*—Tables completed, written multiplication of numbers of three orders by numbers of one or two orders.

*Division.*—Oral work suggested by the work in multiplication; this should include telling how many times three goes in every number without remainder up to thirty, four up to forty, etc., to nine up to ninety. Written division should include short division by all digits below ten; in the second term, long division should be introduced with easy divisors of two orders, i. e., with divisors that involve little carrying in the multiplications, such as 31, 41, 51, 61, 71, 81, 91.

*Fractions.* — Halves, fourths, eighths, thirds, fifths, sixths, oral and written reduction, addition and subtraction of fractions.

*Measures.* — Continual review of those already taught, introduction of linear yard, square and cubic inch, square foot, pound, ounce, dozen, pint, quart, gallon, etc.

*Notation and Numeration.* — Reading and writing of numbers of seven orders.

*Terms.* — Sum, minuend, subtrahend, remainder, multiplicand, multiplier, product, dividend, divisor, quotient, factor, prime factor, numerator, denominator, but these should be learned through familiar use rather than by definition.

The phrasing and solution of problems is a valuable exercise; through it the children are led to see the similarity of data in different problems and the application of arithmetical operations to similar problems in the various occupations. The statement of the problem leads also to clear thinking in regard to the proposition in hand. The data should be drawn from the child's own activities or from his study of the commerce and industry of his neighborhood, and the task should always lie within the range of his present understanding that the exercise may have significance to him.

Oral drill, competitive and otherwise, should form an important part of mathematical work in the third grade; this should include rapid drill in addition and multiplication with emphasis upon correct results at the first attempt. Cards may be made carrying a number of problems for which the child makes a list of answers within a specified time; the cards are, then, interchanged and others strive to discover mistakes in the results. Easy problems may be

placed upon the board and answers written by each and exchanged with discounts in the tally for errors. Rapidity and accuracy are the goals in these exercises.

The school store is a valuable auxiliary. The goods may be objects or represented by cardboard appropriately labeled. One is appointed storekeeper, and one makes a purchase, all the rest make change silently to check up the storekeeper, the first one who detects an error takes the place of the storekeeper. A time-keeper calls time if a computation is delayed beyond the time agreed upon. Each pupil rises as he completes his computation so that the teacher knows upon whom to call for verification of the computation. Generous time must be allowed at first for the completion of the transaction, the cost of five dozen pencils at twelve cents a dozen takes time for calculation and the storekeeper will need additional time to make change for a dollar bill. The currency of the business school may be used here to advantage.

The advance in knowledge of geometrical form has already been discussed under the treatment of paper work for this grade. The range of correlation is considerably greater in this than in preceding grades. Data for the application of number will be found in nature study, home geography, clay-modeling, pottery making, weaving, and basketry.

#### NATURE STUDY. — GRADE THREE

Nature study in the third grade should enlarge the children's knowledge of cyclic changes in nature and should increase their acquaintance with the physical phenomena upon which the study of geography rests. In many respects, the material and method for the third grade are similar to those for the second, therefore, the discussion given for that grade in this syllabus will aid the teacher here in the

selection, organization, and presentation of the material for the course.

**The Content of Study.**—(1) The study of plants as wholes and the cyclic development of seeds, plant, flower, and fruit. (2) The study of animals including one or more from (a) bird, (b) mammal, (c) insect world. These should be studied as wholes, as parts, and in cyclic development; the bird as egg, young, adult; the insect as egg, larva, worm, chrysalis, and imago. (3) The study of water as a solvent and as a transporting agent, etc. (4) The study of meteorological conditions. (5) The study of the soil and of soil formation.

**Plant Study.**—The study of plants as wholes should be conducted as in the preceding year. The goldenrod is an excellent subject for fall study and the violet for study in the spring. The study of seeds, buds, and fruits should be similar to that given in the second grade.

**Roots.**—Make a comparative study of roots to show their relation to the plant as a means of support and as organs which absorb nourishment for the plant. Use a magnifying glass to show root hairs and capillary tubes. Study the carrot or beet as a type of root which stores nourishment for subsequent growth. Distinguish roots from underground stems. Correlate with the other forms of school work.

**Leaves.**—Show that leaves are organs which give off moisture to the air through the pores that they contain. This may be shown experimentally by placing an inverted fruit-jar over a plant after the soil has been covered by oiled paper to prevent evaporation. Lead the pupils to examine the leaves with a magnifying glass to detect the breathing pores. Follow other suggestions given for the second grade.

**Stems.**—Study the structure of various stems, show the small passages which make it possible for the liquids to pass upward to the leaves where they give off their moisture to the air. Emphasize the importance of the stem to the plant and its use for man and the lower animals.

**Animal Study.**—The method of work of the preceding year should be continued. Birds, mammals, and insects should be studied with emphasis upon the stages of life through which the animal passes. The cyclic changes from the hatching of the frog's eggs to the development of the frog offer an excellent subject for the spring months. The ribbons of eggs should be collected from some pond and placed in a fresh-water aquarium where the daily changes can be noted. Drawings should be made of the eggs and of the tadpoles, experiments should reveal the kinds of food upon which the tadpoles and young frogs live, and deductions be made concerning their service to man.

Some study of the earthworm is possible for this year, through examination of the earth after a spring rain. A box of earth may be prepared and their action observed more continuously. Emphasis should be laid upon the work of the earthworm in pulverizing the soil and bringing it to the surface.

The squirrel is a convenient subject for winter study if a tame one is obtainable. Intelligence, habits, parts and their purpose, serviceability and destructiveness are topics for consideration.

**Meteorological Conditions.**—This subject should include the cyclic changes of water and their relation to cold and heat. The formation and condensation of water vapor and the precipitation of rain should be studied with practical experiments in the evaporation of water and the

condensation of steam. The relation of winds and ranges of hills and of elevation upon rainfall should be explained. The effect of running water upon the land surface and the carrying capacity of water should be considered. The pupils should keep a weather chart, recording the date, temperature, condition of atmosphere as clear, cloudy, rainy, windy, etc.

**Soil Formation.** — The children should collect samples of the various kinds of soil and earth deposit; — fruit jars are convenient for this purpose. Simple experiments will show the difference of porosity for different soils, and the difference in fertility will be made evident by planting the same kinds of seed in the different jars. All experiments should be very simple and the study comparative. The habit of observing and comparing is the result of training and one of the most important fruits of education.

The building up of soil through the wearing and carrying power of water, through the action of freezing upon porous rocks, and through chemical action should be made clear through simple experiments. The slaking of lime and soft coal, the action of dilute acid on limestone, are illustrations that children of this grade can understand. Statements in the textbook of elementary geography and in the reading given in connection with the study of geography will be discussed afterwards with intelligence.

**Garden Work.** — The gardening of this year is in the main a continuation of that of the preceding year and the objects sought through that should also guide the teacher in this, but greater emphasis should be laid upon those thoughts and services for plant life which will strengthen the regard for the mysteries of life and the recognition of one's coöperation with unseen forces in the furtherance of life processes. The tasks should also call for better

coördinated muscular activity than in the preceding year, but too great results must not be expected and the work must be kept on the plane of the child's development and unforced mental activity.

Propagation of plants by slips should be an important part of the year's work. The geranium and the carnation are suitable for use. Preliminary work may be done indoors in potting and caring for plants. Teach the importance of proper soil, the need of drainage, the methods of starting slips and of potting, how to remove plantlets by tapping the edge of the inverted pot on a box, and transplanting to the garden-plot, with the use of the watering-pot in packing the soil about the roots.

From seed catalogs or elsewhere, the children should determine the distance apart at which plants should be set and then should compute the number of plants necessary for a given border, correlating their garden work with their study of number. The use of plants for the decoration of the school-yard may now be considered. Slips of woodbine and other climbing plants may be planted around the walls and along the yard fence. Moist places can receive cuttings of willow or poplar, which in time will form a bit of shrubbery. These matters should be decided by the vote of the class after discussion, that all may learn to work in coöperation. Common plots may also be undertaken for nursery purposes and plans for joint labor agreed upon. In the individual plots, each child should have wide latitude of choice, planting for beauty, for economic use, or for other purposes that appeal to him. Make correlation a distinctive phase of this work, and through it introduce the study of the agricultural and commercial industries of the community.

## ART STUDY.—GRADE THREE

The training in art in the third grade divides into color work and drawing. Color is taught (a) with reference to decoration in motor work and (b) for knowledge of colors, hues, and tints and of their harmonious combinations. Drawing is taught as (a) mechanical drawing in connection with the paper work and as (b) free-hand in connection with nature study and for representative purposes in connection with the written composition.

In material and method, the study of art in this grade is to a degree a repetition of that of the earlier grade. The subjects suitable for practice are flowers, fruits, vegetables, animals, figures, and landscapes, and any of these may be used in either representation or design. In all the work there should be continual advance with emphasis upon technique of art in the study of simple decoration and in its application to motor work, and upon good spacing, arrangement, and the choice of harmonious colors in the elements of the design which the pupil is working out. In illustration, the choice of an effective moment, of figures, and their effective and harmonious grouping should receive attention. When these have been selected by the pupils, the figures may be placed upon the board by the teacher and several arrangements shown and erased, the children afterwards choosing their own plan of grouping. Studies of arrangement can also be made by the use of figures in paper appliquè. For festival cards, block prints may be used, the children filling in the outline.

In the study of color, the color-disks may be used or the color-top with adjustable disks. Water colors should be the medium of expression though colored crayon and charcoal are serviceable. Teach the children to make

flat and graded washes of the standard colors and of their hues and tints. These washes may be applied to simple landscapes, or may be used to color paper for Christmas and Easter cards, book-covers, etc.

In the study of landscapes, the children should use a simple finder to aid in obtaining a well-balanced grouping or massing of the elements which enter into the picture. The finder can be made by placing two L-shaped pieces of cardboard so that the legs enclose a rectangle which can be so shifted as to show the best method of arranging the objects represented.

In free-hand work, paint and draw from nature. Weeds, flowers, leaves on trees, twigs, vines, and animals can be used as models, both singly and in groups. In drawing from nature, select large, vigorous specimens and require careful study of the characteristics of the subject before an attempt is made to draw or paint it. Study pose and action by drawing members of the class, using a flat wash of gray, insist upon representation in mass instead of outline drawing. Encourage attempts to show the relation of light and shade but not to represent the third dimension.

For suggestions regarding the selection and arrangement of material, the care of water colors and brushes, methods of conducting lessons without loss of time or confusion, see the syllabus for the preceding grade.

If sewing is taught, ornamentation by cross-stitch embroidery can be studied; such ornamentation should follow designs worked out on cross-section paper.

In the designing of borders, the pupil should devise his border from a selected unit, should work it out in light and dark, then select his colors with due regard to harmony of color and tone.

All work in art should be correlated with work in the

various branches of study,—paper work, weaving, basketry, clay-modeling, pottery, etc.

### GEOGRAPHY. — GRADE THREE

The year's work should begin with a review of what the children learned the preceding year concerning the various bodies of land and water, through the use of the sand-box and pictures and out-of-door lessons. The terms cape, peninsula, island, plain, valley, mountain-range, river, lake, outlet, inlet, gulf, bay, ocean-bed, etc., should be recalled and used familiarly.

Home geography may begin with the mapping of the neighborhood in sand, homes, groups of houses, streets, surface of land, drainage, groves, etc. These may also be drawn as a map from which the pupils may be taught to interpret maps and from this be led to a comparative study of the maps in books.

Starting from the school garden, a study may then be made of agricultural products from gardens and farms and of the comparative size of each holding, the crops raised, the times and methods of planting, harvesting, and disposing of crops, with some very elementary discussion of stock-raising, orcharding, and of wood products.

After due preparation, attention should center on the exchange of products and their conversion through manufacture. The manufacturing industries of the neighborhood should have special study, in particular those that convert the raw material of the section into finished products. It is not important that leading manufactories or typical ones should be chosen, but that the children should learn how the material with which they are familiar is converted into more useful and beautiful form. Visits to manufacturing establishments should be planned

where such are possible without exposure to dangerous machinery. In all cases, such excursions should be made only with consent of parents and of the officials of the factory. Before the excursion is made, the teacher should familiarize herself with the processes involved and select those that will need explanation and emphasis. The children should also be told the reason for their visit that their observations may be made with more definiteness.

The study of the materials used in the factory, which usually include some brought from a distance, will raise questions of transportation and mutual dependence in exchange. The transportation of materials, whether these are local or brought from a distance, and the expense of manufacture at this point will lead to discussion of the causes for the location of the plant.

The study of exchange leads to the more general study of transportation. The value of good roads to the farmer, the desirability of railroads to the merchant, should be recognized. Home products should be traced to the centers of trade and products from other sections or lands followed to their places of origin. Timetables of railroads and steamship lines should be collected by the pupils and the maps of geographies and books of exploration and travel should be examined for the location of sources of foreign products and the destination of home products.

The commercial aspect of the study of geography should lead to an examination of the stores of the vicinity. The purchase of products for shipment and the bringing in of products for the local demand should be recognized and discussed. The convenience of currency instead of barter and the use and value of money should now become clear. Price-lists should be collected, and the increase of price through the increment of gain exacted by each through

whose hands the article passes should become clear, also the enhancement of value through manufacture.

The study of any settlement, large or small, will lead to some discussion of social and governmental regulations for the protection of property and the regulation of conduct in a community. As the children recognize the relation of pupil to teacher and school so they can understand the need of local officials and of community laws or regulations. No attempt should be made to impart any connected view of civic organization, simply a preparation made for the elementary study of civics and government in later years.

The study of industry, of transportation, and of geographical locations and conditions can be made more effective by the use of stories of inventors, explorers, etc., which will introduce the biographical and historical incidents by which the study of history should begin in the next year.

The study of geography should correlate closely with the other work of this year, thus, drawing and the mapping of the village, sand work and the study of the relief or surface of the neighborhood, arithmetic and the problems of transportation, such as the passenger charges between known stations, the freight charges to centers of traffic, and the problems of exchange as shown by differences in buying and selling prices. Weights and measures should be studied in their relation to the exchange of goods. English is in constant use for oral expression and in written records which should pass under the eye of the teacher.

A large map should form part of the equipment of the room and upon this the more important trade routes should be clearly shown. Late in the year, a globe should be added, and from this the pupils should learn the shape of the earth and the distribution of land and water. No attention

should be given to latitude and longitude, but the equator should be located for convenience in establishing directions north and south upon the map.

### MUSIC. — GRADE THREE

The study of music in the third grade begins with a review of the old songs and the recalling of all that has been learned concerning tone quality, enunciation, and good rendering. Then, other songs should be introduced which require greater concentration and individual effort, such as: De Koven's "Wynken, Blynken and Nod," which affords change in key and a rocking, rhythmic motion; Miss Knowlton's "Crow," with its summer associations; Gaynor's "The Leaves," "Party," "The Squirrel," and "Honey Bee," with their fall associations; "After Thanksgiving" and "This Tree Was Grown," from the Modern Music Primer; "The First Noel," from Folk Songs for Children; "O Little Town of Bethlehem," from the Church Hymnal; Elliott's "The North Wind Doth Blow"; Gaynor's "Sleighting Song" and "Tracks in the Snow"; "The Snowbird's Message," "The Little Trolls," and "The Woodpecker," from the Modern Music Primer; Knowlton's "Rollicking Robin"; Gaynor's "The Flag Song," the national hymn, and such occupation songs as "The Workshop."

After the song work is well established, intensive study in observation and analysis should be resumed. First, the acting, picturing, and rhythm notation; then, the singing to the blackboard with a mark on line or space for doh. The teacher dictates with the pointer different rates of speed, changes in the duration of notes, repetition of notes, changes in direction on scale, skips of thirds and fourths, and combination exercises. Second, practice on whole step and half

step above and below a given tone. The discovery is made that in different songs the same line or space may represent a whole step or a half step. Third, the G clef with F sharp to represent ti and F for fah, then the B flat. The pupils can now write their songs in three different places on the staff. With the three pitches, the key signature is developed.

In the rhythmic work, two duration values are studied — the long and the short — in one pulse and two pulses for two notes. This is acted and pictured, then represented by a dot after a quarter and an eighth note.

Creative work should be continued in this grade. Subjects for songs should be discussed, then songs should be made by the children and the notation worked out in class. Nothing should be said about major or minor keys, each child following his own feeling. Subjects that express some motion or activity, or that present a mood or a definite state of feeling such as pleasure or regret lend themselves most readily to musical settings; for instance, subjects having to do with wind or water, with occupations such as that of the milkmaid or the blacksmith, or subjects that express states of feeling such as weariness, longing, cold. For the expression of feeling, the color quality of major and minor chords is instinctively chosen that the music may say the same things that the words say.

Greater emphasis should be laid upon individual rendering than in the preceding year. The class should also be treated as a chorus and sing at times before the whole school. The pupils should also be trained to listen to individual and chorus singing critically for friendly criticism. The teacher will find much that is suggestive in the methods employed in the Horace Mann School, "Teachers' College Record," Vol. VII.

## PHYSICAL EXERCISE. — GRADE THREE

Physical training in the third grade has for its objects: (1) stimulation of the growth of the body in general and development of the vital organs, (2) development of strength, agility, and graceful movement and carriage, (3) removal of bodily defects or conditions induced by school life, (4) increased vitality so that the body may better resist disease, (5) training of mental powers necessary for the growth of will power, obedience, submission to rules, perseverance, courage, and self-reliance, (6) development of control of the muscular system.

The third grade gymnastics should include: (1) head exercises to secure correct poise of the head, chest, and neck, (2) arm exercises to secure development of chest, shoulder blades, and arms, (3) movements to develop the lower extremities, (4) trunk exercises including lateral bending movements to strengthen the spine, to flatten the shoulder blades and strengthen the waist muscles, to increase the activity of the liver, and to improve the circulation, (5) breathing exercises to expand the chest, to develop lung capacity, to improve the circulation and establish the normal action of the heart.

Exercises involving marching, throwing, bowling, running, and jumping are best suited to the needs of children of elementary grades. The lessons should be short, from eight to ten minutes, and given in a well-ventilated gymnasium or corridor which is free from dust. All over-exertion should be avoided. The mind should be engaged but not strained. The exercises should be planned to develop promptness in response to command, and accuracy in the execution of directions.

The following outline shows the character of the work that may be done in this grade:

*Marching.*—By twos and fours with commands “twos right,” “twos left,” “fours right,” “fours left”; in different positions, on toes, on heels with knees bent.

*Simple Dancing Steps.*—Side step, touch step, step and hop, heel and toe, combinations of the foregoing, folk dances continued as in preceding grade.

*Response to Command.*—Attention, hands on hips, feet close, feet sidewise, step in any direction, etc.

*Arm and Leg Movements.*—Clapping hands above head with heel raising, arm raising sidewise with heel raising, etc.

*Trunk Movements.*—Bending in various directions, care being taken to avoid strains or over-exertion.

*Jumping.*—Standing and running broad and high jumps without much regard to form in landing, etc.

*Running.*—Running for speed, endurance, with care against strain.

*Games.*—With beanbags — passing down four lines, passing around a circle, throwing back and forth across two lines, four lines racing in passing; with basket ball—two circles, one child in center tosses to each in turn, circle through first wins; throwing back and forth across two lines, tossing over a line stretched across the room, etc.; with ordinary ball — throwing at a target, bouncing ball from right hand to left and return for accuracy and for speed, etc., etc.



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